RIO-COAT ERS

Rapid Cure Epoxy

DESCRIPTION – RIO-COAT ERS is a two-component, rapid cure high-solids epoxy designed for experienced applicators. **ADVANTAGES**

- Reduces downtime at ambient conditions
- Reasonable cure time at cooler conditions
- **LEED® CREDIT** – LEED Green Building Certification Program credits may be available:
  - **Indoor Environmental Quality**
    - 4.2 Low-Emitting Materials, Paint & Coatings

ENVIRONMENTALLY & USER FRIENDLY

- Reduced solvent means less evaporation and less waste.
- Complies with SCAQMD VOC regulations--<100 g/L.

PRIMARY APPLICATIONS

Primer and Build Coat	Seed coat for full broadcast flake and quartz floors

APPLICATION COVERAGE RATE

To meet **100 g/L VOC per EPA Method 24**, RIO-COAT ERS must be applied using one or the other minimum mil thicknesses shown below:

- A minimum of **10 mils** (0.25 mm) in one single coat.
  10 mils (0.25 mm) → 160 ft^2 (14.86 m^2) coverage per gallon (3.78 litres) wet/dry film
- A minimum of **11 mils** (0.28 mm) total combined thickness applied in **two coats** within 7 hours of each other, with neither coat being applied less than **3 mils** (0.08 mm).
  3 mils (0.08 mm) → 535 ft^2 (49.70 m^2) coverage per gallon wet/dry film
  8 mils (0.20 mm) → 200 ft^2 (18.58 m^2) coverage per gallon wet/dry film

MATERIAL PROPERTIES (LIQUID)

Property	Test Method	Results
Volatile Organic Compound – VOC, g/L	EPA–Method 24	≤100 @ 10 mils (0.25 mm) or greater
Density - lb/gal / kg/L	ASTM D1475	A - 9.46 / 1.135 | B - 8.22 / 0.986 A/B - 9.04 / 1.085
% solids (nonvolatiles)	ASTM D2369, Method E	≥ 90.79 @ 10 mils or greater
Mix ratio by volume		2 parts A to 1 part B

CURED COATING PROPERTIES (DRY FILM)

Property	Test Method	Results
Tensile Strength, psi (MPa)	ASTM D2370	5,200 (35.9)
Percent Elongation	ASTM D2370	4
Shore D Hardness	ASTM D2240	80-85 @ 0 sec | 75-80 @ 15 sec

Test results based on conditions of 77°F [25°C].

GENERAL PRODUCT INFORMATION

STORAGE:	Materials should be stored indoors between 65°F (18°C) and 90°F (32°C).
SHELF LIFE:	Minimum 2 years from date of manufacture in unopened original product containers.
PACKAGING OPTIONS / PART NUMBERS:	**RIO-COAT ERS** 15 gallons (56.7 litres) / 378107 (Contractor only)
OPTIONS:	*Colors:* Use colorants at a rate of one unit per 3-gallon (11.34 litres) mix of RIO-COAT ERS Standard Colorants--White, Yellow and Light Gray will not impart total hide. Use these colorants at a rate of two units per 3-gallon (11.34 litres) mix. Similar colorants also may not hide as well. Refer to Color Selection Guide or consult RIO Technical Support. (White and Light Gray are only recommended if topcoating with a non-yellowing urethane. Due to possible color inconsistencies, Battleship Gray and Medium Gray colorants are only recommended if topcoated.) *UV/Light Stability:* This product is not light stable and will yellow/amber more quickly than a standard epoxy. RIO-COAT ERS should not be used for sealing and topcoating decorative floors or as a standalone coating.
LIMITATIONS:	*Contamination (Fisheyes, Adhesion):* Products may fisheye and/or have reduced adhesion if oil, silicones, mold release agents or other contaminants are present. *Appearance:* The reduced work time may not allow the release of entrained air and/or RIO-COAT ERS to level as well as a standard epoxy resulting in an orange peel texture that a thin-mil coating will not hide.

Blush Effect: RIO-COAT ERS may exhibit amine-blush if applied at relative humidity >70%. Amine-blush will affect adhesion quality of additional coatings applied on top. Consult RIO Coatings Technical Support for further questions about amine-blush.

IMPORTANT: READ AND FOLLOW ALL PRECAUTIONS AND INSTRUCTIONS BEFORE PROCEEDING.

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

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 Company, technical support for further instructions.

CHECK FOR MOISTURE: Concrete must be dry before application of this floor coating material. Concrete moisture testing must occur. In-situ relative humidity testing is recommended. Readings must be below 75% relative internal concrete humidity. Test methods can be purchased at www.astm.org, see F2170, or follow manufacturer's instructions. If moisture issues are present, the use of a moisture mitigation system may be a consideration. Please call RIO Company Technical Support for further information / 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 (32.2°C). **Humidity must be less than 70%** at time of application as it may result in amine-blush. Amine-blush can affect adhesion quality of additional coatings applied on the top. Consult RIO Company Technical Support for further questions about amine-blush. **DO NOT** coat unless floor temperature is more than five degrees over the current, local dew point.

APPLICATION EQUIPMENT

• Protective clothing	• Shed resistant 3/8" nap roller **NOTE:** *Using thicker nap rollers reduces the work time, especially at warmer temperatures.*
• Jiffy® mixer blade [RIO Part # 08643-5 (5 gal)]	
• Slow speed drill (500 rpm or less)	• Spiked shoes
• 18-24" Flat rubber squeegee	• 80 grit sandpaper
• 18-24" Notched rubber squeegee	• 100 grit sandpaper
• Roller assembly (18")	• 120 grit sandpaper

ASSEMBLE EQUIPMENT: Due to the limited pot life of the material, all application equipment, etc. should be ready for immediate use. (Clean roller with tape to remove any residual lint.)

RECOAT APPLICATION

If recoating a previously existing floor coating, thoroughly inspect coating to make sure it is bonded well to the concrete. The presences of blisters and peeling may be evidence of high moisture or contamination problems in the concrete. If the existing coating is a concrete sealer, paint, or curing membrane, then it must be fully removed before coating with RIO-COAT ERS. Refer to "Preliminary Floor Inspections" section above for more details. Thorough floor preparation must be completed before recoating with RIO-COAT ERS Sand existing floor coating fully to a uniform dull appearance using 80 grit sandpaper. 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. When recoating with RIO-COAT ERS, apply a minimum **10 mils**, ensuring variations in floor surface texture and profile will be covered. RIO-COAT ERS is not designed to be use as a standalone coating and should be coated over with a different RIO epoxy or urethane. For mixing and application instructions of RIO-COAT ERS, refer to Bare Concrete Application Step #2. For applying coatings on top of the RIO-COAT ERS, refer to the section regarding "Applying Additional Coatings" on page 3.

BARE CONCRETE PREPARATION OPTIONS

Ensure concrete is free of dirt, grease, oil or other contaminants. Certain types of contaminant may interfere with coating adhesion and cause fisheyes or defect in the coating. Scrub with detergent, rinse with clean water, and allow to fully dry.

Concrete Preparation Options for Thin to Medium Film Applications
Diamond Grind: (results of diamond grinding may vary depending on technique and the hardness of the concrete. Additional mils may be required). Sweep to remove large debris and vacuum to remove fine dust.
Light Blast: Use magnetic broom to remove excess shot, sweep to remove large debris and vacuum to remove fine dust.

Concrete Preparation options for Thick-Film Applications
Steel Shot Blast: 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.

Filling Joints: 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 epoxy or with a semi-rigid joint filler.

joints must be filled with a flexible material designed for this purpose. **Coating applied over filled joints may crack if there is concrete movement.**

BARE CONCRETE APPLICATION

To minimize outgassing bubbles on bare concrete, it is recommended that RIO-COAT ERS be applied in two steps. Apply the first coat of the primer with at least 3 mils (535 ft^2) coverage per gallon wet/dry film.

APPLICATION STEP #1

Before use, PREMIX RIO-COAT ERS Part A in the product container using a Jiffy® mixer blade and slow speed drill to ensure a uniform product. From the product container, measure out 2-parts by volume of RIO-COAT ERS Part A into a measuring container. Then, pour the measured Part A into a mixing pail.

From the RIO-COAT ERS Part B product container, measure out 1-part by volume of RIO-COAT ERS Part B into a measuring container that is separate from the one used with the Part A. Then, add the measured Part B to the Part A already in the mixing pail. ***POTLIFE**: Mix only enough material which can be applied within the work time (time between the addition of Part B to Part A and the completion of all application actions). Check the following chart for work times at various temperatures.*

APPROXIMATE WORK TIME (minutes) - °F (°C) -	65 (18.3)	70 (21.1)	75 (23.9)	80 (26.7)	90 (32.2)
NR = Not Recommended	15	10	< 10	NR	NR

MIX FOR 1 MINUTE using a Jiffy® mixer blade and slow speed drill. (Failure to do so could result in lower/diminished coating properties.)

IMMEDIATELY POUR ALL OF THE MIXED MATERIAL onto the floor in a single bead.

PUSH THE FLAT SQUEEGEE at an even speed with down pressure. The squeegee should be pushed to apply maximum pressure and therefore the thinnest coat.

START THE SECOND AND REMAINING PASSES by pushing material parallel to the first stroke. Hold the bead of material near the center of the bar and push at an even speed with slight down pressure. ***NOTE:** Epoxy applied thin may "bridge" holes and cracks momentarily before soaking in–make sure the previously squeegeed area is overlapped (halfway).*

To Reduce Outgassing Bubbles, it is best to wait until the primer has set up enough to walk on before applying the second coat. Approximate "walk-on" times are listed below:

APPROXIMATE WALK-ON TIME (hours) - °F (°C) -	65 (18.3)	70 (21.1)	75 (23.9)
	7	5	< 5

If the second coat is not applied **within 7 hours**, coating VOC may exceed **100 g/L**. If it is not coated within **24 hours**, it must be thoroughly sanded to ensure proper adhesion of additional coats. See section "Sanding Requirements" for additional information.

APPLICATION STEP #2

Repeat Mixing procedure note above in **Step #1**. Adjust mix quantity to match the desired coverage rate. Step #2 requires back-rolling to obtain a uniform coverage rate. Apply a minimum of **8 mils** (0.20 mm) in Step #2 to cover up remaining texture differences on the floor. **Note:** The total combined thickness of step#1 and step #2 should not exceed 35 mils (0.89 mm).

IMMEDIATELY POUR ALL OF THE MIXED MATERIAL onto the floor in a single bead.

Use a notched squeegee to spread the coating out over the floor, using the same method noted for Step #1.

*1/16" notched squeegee to apply 10-15 mils (0.25-0.38 mm)
*1/8" notched squeegee to apply 15-20 mils (0.38-0.51 mm)
*1/4" notched squeegee to apply more than 20 mils (0.51 mm)
*These guidelines were arrived at by using new squeegees on smooth concrete with little applied pressure. The application rate is affected by worn squeegees, applied pressure and texture of the concrete.

Immediately after the RIO-COAT ERS is spread out and there is room to roll, a second person will **BACKROLL THE MATERIAL** with a 3/8" roller to a smooth and uniform appearance.

(Other RIO urethanes or epoxies)

RIO-COAT ERS is not designed to be a standalone coating and should be coated over with a RIO urethane or epoxy. RIO-COAT ERS can be coated over **without** sanding the floor within 24 hours of last RIO-COAT ERS application when cured in the range of 65-80°F (18-27°C). **NOTE:** *This is a RIO solution only, **DO NOT** try this with competitive epoxies.*

SANDING REQUIREMENTS

After 24 hours of recent application, RIO-COAT ERS must be sanded if applying additional coats of RIO urethanes or epoxies.

TECHNICAL SUPPORT

For any preparation or application questions, please call RIO Flooring Systems technical support 1-888-278-2183.

DISPOSAL

Dispose of all excess material, packaging and other waste in accordance with federal, state and local regulations.

MAINTENANCE GUIDELINES

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

Care: 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. Any brush more abrasive than a soft nylon or white pad 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: 800-228-4943, option 3 (US & Canada), 800-832-8935 (International).

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.

Rio Flooring Systems Inc.
2926 Chester Avenue
Cleveland, Ohio 44114
440.605.1020
F: 440.605.1120