Rio Floor Architectural Specification

System: Epoxy and High-Wear Urethane Satin Finish Architectural Specification

PART 1 – GENERAL

1.01 RELATED WORK SPECIFIED ELSEWHERE

B. Cast-In-Place Concrete, Section 03300

B. Painting, Section 09900

1.02 QUALITY ASSURANCE

A. Acceptance Sample:

1. A minimum four-foot square acceptance sample of the specified flooring system shall be prepared by the manufacturer's representative and submitted to the Owner prior to the bidding phase of the project. All bidders shall inspect the "acceptance sample" before submitting the bids. No contractor shall submit a bid that has not seen this sample.
2. The finished flooring system shall duplicate the acceptance sample in thicknesses of each respective film layer, color, texture and degree of overall appearance and finish.

B. The finished resinous flooring shall be uniform in color, texture and appearance. All edges that terminate at walls, floor discontinuities and other embedded items shall be sharp, uniform and cosmetically pleasing with no thick or unkempt edge.

C. Reference Standards:

1. ACI 308 – Standard Practice for Curing Concrete
2. ACI 302.1R-80 – Guide for Concrete Floor and Slab Construction

1.03 SUBMITTALS

A. Manufacturer's Literature: Descriptive data and specific recommendations for initiating, mixing, application and curing.

B. Manufacturer's Safety Data Sheets (MSDS) for each product.

1.04 PRODUCT DELIVERY, STORAGE AND HANDLING

A. All materials shall be delivered in original manufacturer's sealed containers with all pertinent labels intact and legible.

B. Store materials in protected areas at a temperature between 65°F (18°C) and 90°F (32°C).

C. Follow all manufacturer's specific instructions and prudent safety practices for storage and handling.

1.05 JOB CONDITIONS

A. Materials should be stored indoors between 65ºF (18ºC) and 90ºF (32ºC).

B. Air and surface temperatures shall be in the range of 40°F (4.4°C) and 85°F (29°C). 60°F (°C) to 85°F (°C) during the application and cure.

C. The relative humidity in the specific location of the application shall be less than 80% and the surface temperature shall be at least 5°F above the current, local dew point.

D. The surfaces to be coated shall have been prepared as specified in Section 3.02 "Surface Preparation".

E. Protect all adjacent surfaces not to be coated with masking and covers.

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PART II – PRODUCTS

2.01

A. Rio Flooring System Company, 2926 Chester Avenue Cleveland, OH 44114 James Eller (864) 770-3277 © Rio Flooring System Company

2.02 APPROVED MATERIALS

A. Primer: Rio Coat™ EVS Epoxy Primer
B. Body Coat: Rio Coat™ EMP Epoxy Prime – Multi Purpose Epoxy
C. Topcoat: Rio Coat™ UHW High Ware Urethane Topcoat

2.03 MATERIAL PREPARATION

A. Mix all material in strict accordance with the manufacturer's specific instructions and procedures for the respective material being used.
B. Pot life and cure times are very short; mix only enough product to satisfy immediate application requirements.

PART III – EXECUTION

3.01 PRE-WORK INSPECTION

A. Examine all surfaces to be coated with these materials and report any conditions that adversely affect the appearance or performance of the coating systems and which cannot be put into acceptable condition by the preparatory work specified in Paragraph 3.02.
B. Do not proceed with surface preparation and application until the surface is acceptable or authorization to proceed is given by the Architect or Engineer.
C. Ensure that floor drains, proximate equipment and any other items sensitive to dust and contamination are properly and adequately masked and protected.
D. For slabs on grade to be treated, Calcium Chloride tests will be run for every 1,000 square feet prior to installation.

3.02 SURFACE PREPARATION

A. General:
    1. Initially, dislodge dirt, mortar spatter and other dry surface accumulations and contamination by scraping, brushing, sweeping, vacuuming or compressed air blow-down.
    2. Surfaces that are heavily contaminated with petroleum or other process products shall be cleaned with the appropriate degreaser, detergent or other effective cleaner/surfactant followed by thoroughly rinsing with fresh water to remove the accumulation prior to mechanical cleaning efforts. Mechanical cleaning will not remove such deposits but will only drive them deeper.
    3. All concrete floor surfaces shall be visibly dry, especially in cracks and other deep surface discontinuities, prior to commencing mechanical cleaning and preparation.
B. Mechanical Surface Preparation and Cleaning:
    1. All accessible concrete floor surfaces shall be mechanically cleaned using a "BlastTrac" method or approved equivalent. All surface and embedded accumulations of paint, toppings, hardened concrete layers, laitance, power trowel finishes and other similar surface characteristics shall be removed leaving a bare concrete surface having a minimum profile of 30 mils and exposing the upper facades on concrete aggregate. (Reference SSPC-SP13 / NACE 6, ICRI CSP3-5.)

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2. Floor areas that are inaccessible to the cleaning machine shall be mechanically abraded to the specified degree of cleanliness, soundness and profile using vertical disc scarifiers, starwheel scarifiers, grinders, needle guns or other suitable effective equipment.
3. Cracks in the floor 3/16" and wider, shall be routed out to a minimum ½" deep V-groove of sound concrete and filled with Rio Coat-Flex. Other significant surface discontinuities such as holes, pits, depressions and exposed aggregate areas shall be filled with similar materials.
4. Allow the surface to dry or force dry with heat and circulating air to ensure that all surface, especially discontinuities, are visibly dry.
5. All concrete floor terminations and leading edges shall be saw-cut and chiseled down to ¼" to ½" as to avoid feathered edge terminations. This includes drains, construction and expansion joints and all leading edges of concrete floor where they meet dissimilar materials.

3.03 APPLICATION

A. Floor

1. This application shall consist of applying the primer and build coat, allowing time for cure and then applying the topcoat in the sequence and film thicknesses as specified herein below and in Paragraph 3.06.
2. Open only containers of components to be used in each specific application. Refer to manufacturer's data sheets for pot life and recoat window.
3. Apply Rio Coat™ EVS at a rate of 160 ft^2 per gallon at 10 mils.
4. Apply Rio Coat™ EMP at a rate of 250-300 ft^2 per gallon at 5-7 mils. Immediately pour all of the mixed material onto the floor in a single bead. Push the 1/16" notched squeegee at an even speed with sufficient down pressure to spread the material.
   If primer is not coated within 24 hours, it must be sanded with 60 grit paper. We recommend thorough sanding with a swing-buffer until the floor is uniformly dulled.
5. Build Coat: Apply RIO COAT™ EMP at the rate of 200 ft^2 per gallon at 8 mils. Immediately pour all of the mixed material onto the floor in a single bead. Push the 1/16" notched squeegee at an even speed with sufficient down pressure to spread the material evenly.
   BACKROLL THE MATERIAL with a 3/8" roller for a smooth uniformed appearance. Back rolling is required to remove the puddles and squeegee lap marks in order to obtain uniform texture and a consistent mil thickness.
   RIO COAT™ EMP must be sanded if applying Rio Coat™UHW after 24 hours. Use 80 grit If primer is not coated within 24 hours, it must be sanded with 80 grit paper. We recommend thorough sanding with a swing-buffer until the floor is uniformly dulled.
6. Vacuum thoroughly and tack rag to remove fine dust.
7. Topcoat: Apply Rio Coat™ UHW at the rate of 500 ft^2/gallon) with a 3/8" (10 mm) nap roller. For proper appearance and development of physical properties, it is crucial that material is not applied above or below this rate. Dip the roller in the coating and lightly roll out excess in the application tray. Apply two 8-10 foot (2.4-3.0 meters) long paths on the concrete, making one stroke left to right and one right to left. Rewet the roller and apply two more paths adjacent to the first pair. Rewet roller and apply a third pair adjacent to the second. Spread the material evenly with V-shaped cross passes. Make sure the floor has just enough coating to cover evenly. Excess material could cause the floor to blister, especially in high humidity. Insufficient material will cause the floor to look non-uniform. Level the area with straight passes that cross the initial material paths. These final strokes will reduce roller marks. If the appearance is not satisfactory, reroll the area. Remix the material in the tray occasionally (with the roller) to prevent settling of the Part C (filler). **NOTE:** *When multiple applicators are used to apply material, inconsistencies between areas may result. To ensure a more uniform finish, an individual outfitted with spike shoes may finish by pushing or pulling a roller across all applicator areas.*

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8. Allow coating to dry 24 hours at 75°F, 50% relative humidity before opening to light traffic. Allow more time at lower temperatures, low humidity or for heavier traffic. Full coating properties take 14 days to develop.

3.04 INSPECTION

A. Request acceptance of the Overlay before application of the Cove and Topcoat commences.
B. All work that is not acceptable to the Architect, Engineer or Owner must be corrected before consideration of final acceptance.

3.05 CLEAN-UP

A. Remove any material spatters and other material that is not where it should be. Remove masking and covers, taking care not to contaminate surrounding areas.
B. Repair any damage that should arise from either the application effort or from the clean-up effort.

3.06 COATING SCHEDULE

A. Primer: Rio Coat™ EVS Epoxy Primer A two-part, 100% solids epoxy applied at 8-10 mils
B. Build Coat Rio Coat™ EMP Epoxy Primer A two-part, 100% solids epoxy applied at 8 mils as a build coat.
C. Topcoat: Rio Coat™ UHW Urethane Topcoat.
A three-part, light-stable, urethane which has a satin appearance and is applied at 500 ft^2/

Specifier Notes: This product selection guide is written according to the Construction Specifications Institute (CSI) format, including Master Format, Section Format and Page Format, contained in the CSI Manual of Practice.
The section must be carefully reviewed and edited by the Architect to meet the requirements of the project and local building code.
Coordinate this section with other specification sections and the drawings.
Delete all “Specifier Notes” when editing this section.

Specifier Notes: This section covers Rio Flooring System’s high-performance coating for commercial/industrial facilities.
This specification is only a guide listing various coating system options for various environments and should not be used as a final specification. Additional coating systems not listed in this specification are available and may be more appropriate for your coating application. To finalize this specification, please contact James Eller at (864) 770-3277
Many coatings contain organic solvents. Consult Rio Flooring System Company for compliance to local VOC regulations.