SPECIFICATION SECTION 09 67 23 – RESINOUS FLOORING

PART 1 – GENERAL

1.01 SECTION INCLUDES

A. This section includes the following resinous flooring system.

I. Seamless Epoxy System: Integrated system for floors consisting of 100% solids accelerated aliphatic amine cured epoxy and quartz broadcast aggregates with polyaspartic wear coat.

1.02 REFERENCE STANDARDS

A. ASTM F 2170 | Standard Test Method for Determining Relative Humidity in Concrete Slabs Using in situ Probes.

B. ICRI No. 03732 | Selecting and Specifying Concrete Surface Preparation for Sealers, Coatings, and Polymer Overlays, CSP 1-9.

C. PDCA Standards 1-24.

D. EPA Method 24.

1.03 ADMINISTRATIVE REQUIREMENTS

A. Pre-installation Meeting. Prior to the installation of the specified system, a meeting shall be held at the project site with the manufacturer's representative, the installer, the engineer/architect, general contractor, and the Owner's representative. General Contractor to document meeting discussions and furnish a copy to each participant. Meeting topics to include, but not be limited to:

1. Planned start and completion timing for each mobilization.
2. Safety procedures.
3. Coordination of other trades in the area.
4. Existing and new slab conditions.
5. To discuss required testing.
6. Existing substrate conditions.
7. Surface preparation.
8. Required environmental conditions.
9. Installation sequencing and cure times.
10. Protection of completed work.

1.04 SUBMITTALS

A. With bid proposal

1. List of no less than five (5) projects of similar size and complexity, using the approved coating systems, including Owner's names, contract amount, contact numbers, date of substantial completion.
2. Manufacturer's data on specified products, describing physical and performance characteristics; sizes, patterns and colors available.
3. Written verification from local distributor that installer is versed on Polymer Nation system specified.
4. Failure to provide the above noted submittals shall cause bid to be rejected.

B. Upon Contract

1. Product Data. For each product to be used in the system, include manufacturer's technical data sheet, application instructions and SDS.
2. Provide pertinent Detail Drawings including terminations, keyways, cove etc.
3. Samples. For each resinous system specified herein, provide, when requested, two samples applied to a rigid backing, minimum size 12" X 12".

Additional LEED Submittals if required to meet project design requirements.

1.05 QUALITY ASSURANCE

A. Source Limitations. Obtain all resinous materials, including waterproofing membranes, grouts, resins, curing agents, grout coats, aggregates, topcoats, patching and fill materials, joint sealants, and repair materials from a single manufacturer.

B. Manufacturer Qualifications:

1. Company specializing in manufacturing specified products, in the USA with minimum 3 years documented experience in the production, sales, and technical support of application.

1.06 MOCKUP

A. Apply a mockup of each coating system to establish a benchmark of finish, thickness, texture, process, color, and quality.

1. Mockup shall be applied to the specified substrate(s).
2. Mockup shall be no larger than 100 square feet.
3. Approved mockups may become part of completed Work if undisturbed at the time of Substantial Completion.
4. If a cove base is to be included on the project, mockup shall include the same.
5. Cost of mockup shall be included in bid proposal.
6. Install mockup, as directed by Owner's representative, in properly lighted area.
7. Do not proceed with work prior to receipt of written acceptance of mock-up.

1.07 DELIVERY, STORAGE & HANDLING

A. Materials shall be delivered in original packages and containers, with seals unbroken, bearing manufacturer's labels indicating brand name and directions for storage and mixing with other components.

B. Store materials in a location to prevent deleterious effects from sunlight, moisture, excessive heat, or cold.

C. Storage of materials shall comply with all fire and safety regulations.

1.08 PROJECT CONDITIONS

A. Environmental Limitations. Comply with coatings manufacturer's technical data sheet for acceptable substrate and ambient temperatures, concrete moisture levels, ventilation, and other environmental conditions that may negatively affect resinous flooring application or performance.

B. Lighting. Proper lighting is required for installation. When possible, lighting shall simulate permanent lighting conditions during coatings application and is the responsibility of the Owner or General Contractor to provide.

C. Installation. Close spaces to traffic during coatings application and for not less that 48-hours after application unless manufacturer recommends a longer period.

D. Airborne Contamination. Coating systems should not be applied in areas where excessive dust or other airborne particulate matter may generate an unacceptable finish.

E. Install coatings only when environment meets coating manufactures requirements and for 72 hours prior to, during and 24 hours after installation of material.

PART 2 – PRODUCTS

2.01 MANUFACTURERS

A. Manufacturer

1. Polymer Nation, Waukegan, IL basis of design sales@polymernation.com **FLORIDA CONTACT** : Floor Coating Source, 239-424-8692, info@floorcoatingsource.com

2. Proposed substitutions must be equivalent or superior to basis of design materials in performance, history of use, layers, and overall system thickness.
3. All substitution requests must be received 14 days prior to bid date and must be approved by architect, via addenda, prior to bid date.
4. No substitutions will be considered without written approval from architect.

2.02 SYSTEM

A. Seamless Epoxy Floor System, consisting of 100% solids accelerated aliphatic amine cured epoxy and quartz broadcast aggregates with polyaspartic wear coat.
   1. Deco-Guard 261 as manufactured by Polymer Nation.
   2. System Characteristics/Performance Requirements:
      a) Color and Pattern. As selected by Owner from manufacturer's full range.
      b) Wearing Floor Surface. Textured for slip-resistance per Owner selection from manufacturer's full range.
      c) Cove Base. Per room finish schedule if required.
      d) System Thickness. Floors – 1/8" nominal.
      e) VOC's <50 g/lt per EPA Method 24 for each component.
      f) Product Composition. 100% solids, cycloaliphatic, Bisphenol A epoxy.
      g) High or Low Solids solvent based, and all water-based systems excluded.
   3. System Components
      a) Prime Coat with Broadcast: F-01 with 1339 and 1321M
      b) Body Coat with Broadcast: F-41 with 1321M
      c) Wear Coat: F-61
   4. General Performance Requirements.
      a) Resinous flooring system shall meet minimum published standards in accordance with Polymer Nation products as specified in this Section.

PART 3 – EXECUTION

3.01 EXAMINATION

A. Testing of Floor Slabs.
   1. Prior to the installation of resinous flooring, concrete should be tested for moisture content that could be detrimental to the long-term adhesion of coating materials. Tests below must be completed in accordance with the most recently revised Test Methods:
      a) Relative Humidity [in situ] Testing per ASTM F 2170
      b) Others as required by manufacturer or unique job conditions. If additional testing is required, additional costs may be incurred by Owner.
   2. The relative humidity in the specific location of the application shall be equal to or less than 75%. If installer obtains a result above 75% relative humidity, contact your local Polymer Nation representative for further instructions.

3.02 PREPARATION

A. General. Prepare and clean substrates in accordance with manufacturer's written instructions for substrate indicated.
B. Concrete Floors. Concrete must be free of laitance, glaze, efflorescence, curing compounds, form-release agents, dust, dirt, grease, oil, and other contaminants, incompatible with floor coatings. Floor slabs shall be prepared as follows:
   1. Prepare per ICRI CSP 3-5, and diamond grind edges as required.

2. Remove and legally dispose of all debris and contaminants generated by the surface preparation process.
3. Steel media resulting from the shot blasted floor slab surface shall be removed from cracks, slab edges, construction joints, and corners by magnetic broom, vacuum, or stiff bristle broom.
4. Chase cracks, non-moving joints with appropriate diamond blades.
5. Cut and prepare keyway terminations per manufactures detailed drawings.

3.03 INSTALLATION

A. General. Apply components of resinous coating system according to manufacturer's written instructions to produce a uniform, monolithic wearing surface at the specified thickness. Coordinate application of components to provide optimum adhesion of resinous floor system to substrate.

B. Installation.
1. Prefill non-moving cracks, joints and keyways as needed to promote smooth floor transitions and terminations.
2. Apply pigmented primer at 15-20 mils using squeegee and a 3/8" nap roller cover and broadcast quartz aggregate until rejection.
3. Sweep up and vacuum loose aggregate.
4. Apply body coat at 15-20 mils using squeegee and a 3/8" nap roller cover, and broadcast quartz aggregate until rejection.
5. Sweep up and vacuum loose aggregate.
6. Apply clear wear coat at 12-14 mils WFT using squeegee and a 3/8" nap roller cover.
7. Cut and fill dynamic joints as required/needed to allow for movement.
8. Texture can be achieved in numerous ways. Make sure the texture has been demonstrated and approved prior to installation.

3.04 CURING

A. Cure resinous flooring components according to manufacturer's written instructions.
1. Temperatures shall be maintained at 65°F - 85°F with less than 50% relative humidity.
2. Water leaks must be prevented as they may damage finish sheen.
3. Prevent contamination during curing processes.

3.05 CLEANING

A. Work area shall be left clean.

B. Remove all trash from work area.

C. Consult coating manufacture for recommended cleaning materials and procedures.

3.06 WARRANTY

A. Polymer Nation warrants that material shipped to buyers at the time of shipment are substantially free from material defects and will perform substantially to Polymer Nations published literature if used in accordance with the latest prescribed procedures and prior to the expiration date.

B. Polymer Nation liability with respect to this warranty is strictly limited to the value of the material purchase.

END OF SECTION