PART 1 – GENERAL

1.1 SUMMARY

A. Section Includes:
   1. Resinous quartz broadcast flooring system applied to concrete substrates.
   2. UV-stable polyaspartic flooring system.
   3. Decorative colored quartz aggregate broadcast flooring.
   4. Seamless textured flooring system for slip-resistant applications.

B. Related Requirements:
   1. Division 01 Sections for administrative, procedural, and temporary requirements.
   2. Section 03 30 00 – Cast-in-Place Concrete for substrate construction.
   3. Section 07 92 00 – Joint Sealants.
   4. Section 09 05 61 – Common Work Results for Flooring Preparation.

1.2 SUBMITTALS

A. Product Data
   1. For each type of product indicated, including preparation requirements and application instructions.
   2. Manufacturer's Technical Data Sheets (TDS).
   3. Safety Data Sheets (SDS).

B. Shop Drawings
   1. Indicate extent of flooring, transitions, terminations, and interface with adjacent materials.

C. Samples for Initial Selection
   1. Manufacturer's standard color charts and quartz blend options.

D. Samples for Verification
   1. Minimum 6-inch square samples of each system, showing color, texture, and finish.

E. Qualification Data
   1. Installer.
   2. Manufacturer.

F. Field Quality Control Reports
   1. Substrate moisture test results.
   2. Surface preparation verification.

G. Closeout Submittals:
   1. Maintenance data.
   2. Warranties.

1.3 QUALITY ASSURANCE

A. Installer Qualifications:
   1. Installer shall be approved by manufacturer.
   2. Minimum five (5) years experience installing resinous flooring systems of similar type and scope.
   3. Employ personnel trained in application techniques for specified products.

B. Manufacturer Qualifications:
   1. Manufacturer shall specialize in resinous flooring systems.
   2. Provide documentation of successful installations of comparable size and complexity.

C. Mockups:

1. Install mockup not less than 100 Ft^2 to demonstrate surface preparation, workmanship, and appearance.
2. Approved mockup may remain as part of the work unless otherwise specified by contract.

D. Preinstallation Conference
1. Review substrate conditions.
2. Review environmental requirements.
3. Review sequencing and protection.

1.4 DELIVERY, STORAGE, AND HANDLING

1. Deliver materials in original, unopened containers with labels intact.
2. Store materials in a clean, dry, and temperature-controlled environment in accordance with manufacturer's instructions.
3. Protect materials from freezing, moisture, excessive heat, and direct sunlight.
4. Condition materials to 65° F to 75° F before installation.

1.5 PROJECT CONDITIONS

A. Environmental Limitations:
1. Do not install materials unless substrate and ambient temperatures are within manufacturer's specified limits.
2. Maintain environmental conditions during installation and curing period.
3. Ambient temperature shall be between 60° F and 85° F.
4. Substrate temperature shall be between 50° F and 85° F.
5. Relative humidity shall not exceed 80% during installation.
6. Substrate temperature shall be minimum 5° F above dew point.
7. Provide adequate ventilation during installation and curing.

B. Lighting:
1. Provide permanent lighting or equivalent for proper inspection and application.

C. Substrate Conditions:
1. Concrete compressive strength shall be minimum 3,000 psi.
2. Substrate shall be structurally sound and free of contaminants.
3. Surface profile shall comply with ICRI CSP 2-5.
4. Slab Moisture Vapor Emission (MVE) shall be ≤ 3 lbs/1,000 Ft^2/24 hours per ASTM F1869.
5. In-slab Relative Humidity (RH) shall be ≤ 80% per ASTM F2170.
6. Concrete pH shall be between 7.0 and 10.0.

1.6 WARRANTY

A. Manufacturer's Warranty:
1. Provide manufacturer's standard written warranty against defects in materials.

B. Installer's Warranty:
1. Provide written warranty covering workmanship for one (1) year.

PART 2 – PRODUCTS

2.1 MANUFACTURERS

A. Basis-of-Design Product:
1. Floorguard Products.

B. Source Limitations:
   1. Obtain primary resinous flooring system materials from single manufacturer.
C. Substitutions:
   1. Comply with Division 01.

2.2 RESINOUS FLOORING SYSTEM

A. System Description:
   1. FGP CS Quartz System.
   2. High-performance seamless quartz broadcast flooring system engineered for superior slip resistance, durability, and chemical protection. Designed for wet, high-traffic, and aggressive service environments. UV-stable polyaspartic resin technology provides excellent color stability and long-term appearance retention. Seamless textured flooring system designed for frequent cleaning and washdown conditions.
B. System Components:
   1. Basecoat: Clear Aspartic 100.
      a) Applied at 135-160 Ft^2/ gal.
      b) Thickness: 10-12 mils.
   2. Aggregate Broadcast: Colored Quartz.
      a) Broadcast to refusal.
      b) Coverage rate: 0.5 lbs/ Ft^2.
   3. Build Coat: Clear Aspartic 100.
      a) Applied at 100-135 Ft^2/ gal.
      b) Thickness: 12-16 mils.
   4. Second Aggregate Broadcast: Colored Quartz.
      a) Broadcast to refusal.
      b) Coverage rate: 0.5 lbs/ Ft^2.
   5. Topcoat: Clear Aspartic 100.
      a) Applied at 100-135 Ft^2/ gal.
      b) Thickness: 12-16 mils.

2.3 PERFORMANCE REQUIREMENTS

A. System Thickness:
   1. 125 mils nominal (1/8 inch).
B. Physical Properties:
   1. Hardness: Shore D 77 per ASTM D2240.
   2. Compressive Strength: 12,000 psi per ASTM D695.
   3. Tensile Strength: 3,900 psi per ASTM D638.
   4. Flexural Strength: 6,500 psi per ASTM D790.
   5. Elongation: 10% per ASTM D638.
   6. Abrasion Resistance: 20 mg loss per ASTM D4060.
   7. Bond Strength: Minimum 350 psi or concrete substrate failure per ASTM D7234.
   8. Impact Resistance: Minimum 160 in-lb per ASTM D2794.
C. Slip Resistance:
   1. Minimum 0.80-0.90 DCOF per ANSI A326.3.
D. Fire Performance:
   1. Class B per ASTM E84.
E. VOC Compliance:
   1. Per local regulations

F. Cure Schedule:
   1. Light foot traffic after 24 hours.
   2. Heavy traffic after 48 hours.
   3. Full cure in 2-3 days.

2.4 ACCESSORIES

A. Provide manufacturer's standard accessory materials compatible with specified flooring system and as required for complete installation.
B. Accessories may include:
   1. Substrate Repair Materials.
   2. Joint Fill Materials.
   3. Moisture Mitigation System (where required by substrate moisture conditions).
   4. Crack-Suppression Membrane (where substrate cracking conditions warrant or as recommended by coating manufacturer to bridge non-structural cracks and minimize reflective cracking).
   5. Cove Base Materials
   6. Edge Detailing Materials
   7. Termination Strips

PART 3 – EXECUTION

3.1 EXAMINATION

1. Verify substrates are properly prepared and conditions are acceptable for installation.
1. Proceed with installation only after unsatisfactory conditions have been corrected.

3.2 PREPARATION

1. Clean substrates of oil, grease, curing compounds, and contaminants.
2. Mechanically prepare concrete surfaces to achieve manufacturer's required profile.
2. Perform moisture testing:
   a) ASTM F1869: Maximum 3.0 lbs/1,000 Ft^2/24 hours.
   b) ASTM F2170: Maximum 80% RH.
3. Repair cracks, spalls, and voids prior to installation.
4. Vacuum and remove dust and debris prior to application.

3.3 INSTALLATION

1. Install flooring system in accordance with manufacturer's written instructions.
2. Apply materials to achieve specified thickness and uniform finish.
3. Apply basecoat at specified coverage rate.
4. Broadcast quartz aggregate to refusal and remove excess prior to subsequent coats.
5. Apply build coat and topcoat within manufacturer's recommended recoat windows.
6. Provide uniform texture and appearance free of puddles, dry areas, roller marks, and surface defects.

3.4 FIELD QUALITY CONTROL

1. Inspect installed system for uniformity, thickness, and surface defects.
2. Verify proper cure prior to opening to traffic.
3. Repair or replace defective work.

3.5 CLEANING AND PROTECTION

1. Remove debris and clean finished surfaces.
2. Protect installed flooring from damage during construction.
3. Restrict traffic during cure period.
4. Use pH-neutral cleaners for routine maintenance.
5. Avoid harsh solvents, caustic cleaners, and abrasive cleaning pads.

END OF SECTION