PART 1 – GENERAL

1.1 SUMMARY

A. Section Includes:
1. Resinous flake broadcast flooring systems applied to concrete substrates.
2. Moisture-tolerant decorative epoxy flooring systems.
3. Seamless textured flooring system with flake aggregate broadcast.
4. Related accessories and terminations.

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. Manufacturer's System Sheets.
4. 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 flake 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 sq ft 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. Conduct conference at Project site.

1.4 DELIVERY, STORAGE, AND HANDLING

A. Deliver materials in original, unopened containers with labels intact.
B. Store materials in a clean, dry, and temperature-controlled environment in accordance with manufacturer's instructions.
C. Protect materials from freezing, moisture, excessive heat, and direct sunlight.
D. Condition materials to 65 degrees F to 75 degrees 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 degrees F and 85 degrees F.
4. Substrate temperature shall be between 50 degrees F and 85 degrees F.
5. Relative humidity shall not exceed 80 percent during installation.
6. Substrate temperature shall be minimum 5 degrees 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. 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.
2. FGP Flake System.

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 Flake System.
2. Multi-layer, moisture-tolerant epoxy broadcast flooring system.
3. Decorative seamless flooring system designed for residential and light commercial environments.
4. Engineered to provide balanced performance in durability, cleanability, moisture tolerance, and aesthetics.
5. Seamless monolithic system designed for easy cleaning and low maintenance.

B. System Components:
1. Primer: MV 2112 Moisture Primer.
    a) Applied at 90 Ft^2/ gal.
    b) Thickness: 18 mils.
    c) Required where moisture vapor emission exceeds basecoat tolerances.
2. Basecoat: Pigmented HyperBOND.
    a) Applied at 135-160 Ft^2/ gal.
    b) Thickness: 10-12 mils.
3. Aggregate Broadcast: Blended Flake.
    a) Broadcast to refusal.
    b) Coverage rate: 0.13 lbs/ Ft^2.
4. Topcoat: Clear Aspartic 85.
    a) Applied at 135-150 Ft^2/ gal.
    b) Thickness: 10.7-12 mils.

2.3 PERFORMANCE REQUIREMENTS

A. System Thickness:
1. 32-50 mils nominal.

B. Physical Properties:
1. Hardness: Shore D 77 per ASTM D2240.
2. Compressive Strength: 15,121 psi per ASTM D695.
3. Tensile Strength: 9,300 psi per ASTM D638.
4. Flexural Strength: 10,465 psi per ASTM D790.
5. Elongation: 5 percent per ASTM D638.
6. Abrasion Resistance: 20 mg loss per ASTM D4060.
7. Bond Strength: Minimum 450 psi or concrete substrate failure per ASTM D7234.
8. Impact Resistance: Minimum 160 in-lb per ASTM D2794.
9. Water Vapor Permeance: 0.254 perms, Class II per ASTM E96.

C. Slip Resistance:
1. Minimum 0.65-0.75 DCOF per ANSI A326.3.

D. Fire Performance:
1. Class B per ASTM E84.

E. Cure Schedule:
1. Foot traffic after 12 hours.
2. Vehicular or equipment traffic after 72 hours.
3. Full cure in 5-7 days.

2.4 ACCESSORIES

A. Moisture Vapor Primers:
1. Manufacturer’s standard moisture vapor primer compatible with flooring system.

B. Substrate Repair Materials:
    1. Manufacturer's standard materials compatible with flooring system.
C. Edge and Termination Accessories:
    1. As required for complete installation.

PART 3 – EXECUTION

3.1 EXAMINATION

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

3.2 PREPARATION

A. Clean substrates of oil, grease, curing compounds, and contaminants.
B. Mechanically prepare concrete surfaces to achieve manufacturer's required profile.
C. Perform moisture testing:
    1. ASTM F1869: As recommended by manufacturer.
    2. ASTM F2170: As recommended by manufacturer.
D. Apply moisture mitigation primer when required.
E. Repair cracks, spalls, and voids prior to installation.
F. Vacuum and remove dust and debris prior to application.

3.3 INSTALLATION

A. Install flooring system in accordance with manufacturer's written instructions.
B. Apply materials to achieve specified thickness and uniform finish.
C. Apply primer and basecoat at specified coverage rates.
D. Broadcast blended flake aggregate to refusal and remove excess prior to topcoat.
E. Apply topcoat within manufacturer's recommended recoat windows.
F. Provide uniform texture and appearance free of puddles, dry areas, roller marks, and surface defects.

3.4 FIELD QUALITY CONTROL

A. Inspect installed system for uniformity, thickness, and surface defects.
B. Verify proper cure prior to opening to traffic.
C. Repair or replace defective work.

3.5 CLEANING AND PROTECTION

A. Remove debris and clean finished surfaces.
B. Protect installed flooring from damage during construction.
C. Restrict traffic during cure period.
D. Use pH-neutral cleaners for routine maintenance.
E. Avoid harsh solvents, caustic cleaners, and abrasive cleaning pads.

END OF SECTION