FGP Metallic Marble System

Decorative Seamless Metallic Epoxy System for Architectural Finishes

PART 1 – GENERAL

1.1 SUMMARY

A. Section Includes:

1. Decorative metallic epoxy flooring system applied to concrete substrates.
2. High-build seamless metallic epoxy flooring system.
3. High-gloss architectural resinous flooring system.
4. Decorative seamless flooring system designed for architectural and interior design-driven environments.

B. Related Requirements:

1. Division 01 Sections for administrative, procedural, and temporary requirements.
2. Section 03 30 00 – Cast-in-Place Concrete.
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. Manufacturer's Technical Data Sheets (TDS).
2. Safety Data Sheets (SDS).
3. Installation instructions.

B. Shop Drawings

1. Flooring layout.
2. Terminations and transitions.
3. Interface with adjacent materials.

C. Samples for Initial Selection

1. Manufacturer's standard metallic pigment selections.

D. Samples for Verification

1. Minimum 12-inch square sample illustrating color, gloss, movement, and decorative finish.

E. Qualification Data

1. Installer qualifications.
2. Manufacturer qualifications.

F. Field Quality Control Reports

1. Moisture testing reports.
2. Surface preparation verification.

G. Closeout Submittals

1. Maintenance data.
2. Warranty documentation.

1.3 QUALITY ASSURANCE

A. Installer Qualifications

1. Installer shall be approved by manufacturer.
2. Minimum five (5) years documented experience installing comparable decorative metallic epoxy flooring systems.
3. Employ trained personnel experienced in metallic epoxy application techniques.

B. Manufacturer Qualifications

1. Manufacturer shall specialize in resinous flooring systems.
2. Provide documentation of successful comparable installations.

C. Mockups

1. Install minimum 100 Ft^2 mockup demonstrating preparation, finish movement, gloss level, and workmanship.
2. Approved mockup establishes visual standard for final installation.
3. Mockup may remain as part of completed work.

D. Preinstallation Conference

1. Review substrate conditions.
2. Review environmental conditions.
3. Review sequencing and protection requirements.
4. Review acceptable decorative variation expectations.

1.4 DELIVERY, STORAGE, AND HANDLING

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

1.5 PROJECT CONDITIONS

A. Environmental Limitations

1. Maintain ambient temperature between 60°F and 85°F.
2. Maintain substrate temperature between 50°F and 85°F.
3. Relative humidity shall not exceed 80%.
4. Substrate temperature shall remain minimum 5°F above dew point.
5. Provide adequate ventilation during installation and curing.

B. Lighting

1. Provide permanent lighting or equivalent illumination for installation and inspection.
2. Final lighting conditions shall be available prior to installation where possible.

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 2-4.
4. Concrete pH shall be between 7.0 and 10.0.
5. Moisture conditions exceeding basecoat tolerances shall require moisture mitigation primer.

1.6 WARRANTY

A. Manufacturer Warranty

1. Provide manufacturer's standard written warranty against material defects.

B. Installer Warranty

1. Provide written workmanship warranty for one (1) year.

PART 2 – PRODUCTS

2.1 MANUFACTURERS

A. Basis-of-Design Product

1. Floorguard Products.

B. Source Limitations

1. Obtain primary flooring system materials from single manufacturer.

C. Substitutions

1. Comply with Division 01 requirements.

2.2 RESINOUS FLOORING SYSTEM

A. System Description

1. FGP Metallic Marble System.
2. Decorative high-build metallic epoxy flooring system designed for architectural interiors requiring seamless high-gloss visual effects with depth, movement, and reflective variation. Specialty metallic pigments suspended within high-build epoxy matrix create unique monolithic patterns and a premium decorative appearance suitable for controlled interior commercial and residential environments.

B. System Components

1. **Primer (As Required)**
   - **a.** MV 2112 Moisture Primer.
   - **b.** Applied at 90 Ft^2/Gal.
   - **c.** Thickness: 18 mils.
   - **d.** Required when MVE exceeds basecoat tolerances.
2. **Basecoat**
   - **a.** Pigmented DT 454 Epoxy.
   - **b.** Applied at 135–160 Ft^2/Gal.
   - **c.** Thickness: 10–12 mils.
3. **Build Coat**
   - **a.** HyperFLOW Epoxy with Metallic Pigment.
   - **b.** Applied at 40–50 Ft^2/Gal.
   - **c.** Thickness: 32–40 mils.
4. **Topcoat**
   - **a.** Clear Aliphatic Urethane.
   - **b.** Applied at 350 Ft^2/Gal.
   - **c.** Thickness: 5 mils.

2.3 PERFORMANCE REQUIREMENTS

A. System Thickness

1. 50–75 mils nominal.

B. Finish

1. High-Gloss Smooth Finish.

C. Physical Properties

1. Hardness: Shore D 77 per ASTM D2240.
2. Compressive Strength: 9,800 psi per ASTM D695.
3. Tensile Strength: 5,200 psi per ASTM D638.
4. Gloss Index: 90 @ 60° per ASTM D112.
5. Elongation: 30% per ASTM D638.
6. Adhesion: 450 psi concrete failure per ASTM D7234.
7. Abrasion Resistance: 23 mg loss per ASTM D4060.
8. Impact Resistance: 160 in-lbs per ASTM D2794.
9. Moisture Vapor Emission Tolerance: 3 lbs/1,000 Ft^2/24 hrs per ASTM F1869.

D. Slip Resistance

1. 0.35–0.50 DCOF per ANSI A326.3.
2. Optional slip-resistant additives available where required.

E. Fire Performance

1. Class B per ASTM E84.

F. Cure Schedule

1. Light Foot Traffic: 24 hours.
2. Heavy Traffic: 48 hours.
3. Full Cure: 5–7 days.

2.4 ACCESSORIES

A. Provide manufacturer's standard accessory materials compatible with flooring system.

B. Accessories may include:

1. Moisture Mitigation Systems.
2. Decorative Pigment Systems.
3. Cove Base Materials.
4. Edge Detailing Materials.
5. Optional Anti-slip Additives.
6. Joint Fill Materials.
7. Termination Strips.

PART 3 – EXECUTION

3.1 EXAMINATION

1. Verify substrates are acceptable for installation.
2. Proceed only after unsatisfactory conditions are corrected.

3.2 PREPARATION

1. Remove contaminants including oil, grease, curing compounds, sealers, and laitance.
2. Mechanically prepare substrate to achieve required CSP profile.
3. Perform moisture testing:
   a) ASTM F1869.
   b) ASTM F2170.
4. Repair cracks, spalls, and voids prior to installation.
5. Vacuum and remove all dust and debris.

3.3 INSTALLATION

1. Install flooring system in accordance with manufacturer written instructions.
2. Apply primer, basecoat, metallic build coat, and topcoat at specified coverage rates and film thicknesses.
3. Metallic pigments shall be uniformly dispersed throughout build coat.
4. Decorative metallic movement and visual variation are intentional characteristics of the system.
5. Maintain wet edge during application to minimize visible transitions.
6. Finished surface shall be seamless, glossy, and free of roller marks, contamination, puddles, or dry areas.

3.4 FIELD QUALITY CONTROL

1. Inspect completed flooring for uniformity, gloss level, thickness, and appearance.
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 schedule.
4. Use pH-neutral cleaners for routine maintenance.
5. Avoid harsh solvents, caustic cleaners, and abrasive cleaning pads unless approved.
6. Reapplication of finish coats may be required over time due to abrasion, UV exposure, chemical exposure, and traffic wear.

A. Field Variability

1. Metallic epoxy systems inherently exhibit variations in color movement, gloss, reflectivity, marbling effects, and decorative appearance.
2. Minor variations between batches, installation areas, and application techniques are expected characteristics and are not considered defects.
3. Repairs and patches may remain visible due to the unique decorative nature of metallic systems.

END OF SECTION