FGP Flexible Traffic System

Flexible Traffic System for Active Slab Conditions Under Traffic

PART 1 – GENERAL

1.1 SUMMARY

A. Section Includes:

1. Resinous flexible traffic flooring system applied to concrete substrates.
2. Crack-isolation flexible membrane flooring system.
3. Textured traffic-bearing flooring system.
4. Seamless pedestrian and vehicular traffic flooring system designed for substrates subject to minor movement and dynamic conditions.

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 color selections.

D. Samples for Verification

1. Minimum 6-inch square sample illustrating color, texture, and 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 resinous flooring systems.
3. Employ trained personnel familiar with specified products.

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 workmanship, preparation, and appearance.
2. Approved 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.

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.

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 shall comply with manufacturer recommendations.

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 Flexible Traffic System.
2. Flexible crack-isolation flooring system designed to accommodate substrate movement while providing durable performance under pedestrian and vehicular traffic conditions. Flexible

membrane technology absorbs minor slab movement, reduces crack transfer, and maintains adhesion and surface integrity under thermal cycling and moderate dynamic conditions. System provides seamless textured finish with improved resistance to cracking and delamination compared to rigid epoxy systems.

B. System Components

1. Primer
    a. Clear HyperFLEX.
    b. Applied at 80 Ft^2/Gal.
    c. Thickness: 20 mils.
2. Basecoat
    a. Pigmented HyperFLEX.
    b. Applied at 80 Ft^2/Gal.
    c. Thickness: 20 mils.
3. Aggregate Broadcast
    a. 20/40 mesh silica sand.
    b. Full broadcast to refusal.
    c. Coverage rate: 0.50 lbs/Ft^2.
4. Topcoat
    a. Pigmented Aspartic 100.
    b. Applied at 120 Ft^2/Gal.
    c. Thickness: 13 mils.

2.3 PERFORMANCE REQUIREMENTS

A. System Thickness

1. 60–70 mils nominal (1/16-inch).

B. Physical Properties

1. Hardness: Shore D 80 per ASTM D2240.
2. Tear Strength: 236 in-lbs per ASTM D624.
3. Tensile Strength: 2,450 psi per ASTM D638.
4. Flexural Strength: 5,000 psi per ASTM D790.
5. Elongation: 150% per ASTM D638.
6. Abrasion Resistance: 20 mg loss per ASTM D4060.
7. Bond Strength: 400 psi concrete failure per ASTM D7234.
8. Impact Resistance: 200 in-lbs per ASTM D2794.
9. Moisture Vapor Emission Tolerance: 3 lbs/1,000 Ft^2/24 hrs per ASTM F1869.

C. Slip Resistance

1. 0.65–0.75 DCOF per ANSI A326.3.

D. Fire Performance

1. Class B per ASTM E84.

E. Cure Schedule

1. Foot Traffic: 12 hours.
2. Vehicular/Equipment Traffic: 72 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. Crack Isolation Materials.
2. Joint Fill Materials.
3. Flexible Transition Materials.
4. Cove Base Materials.
5. Edge Detailing Materials.
6. Termination Strips.
7. Substrate Repair Materials.

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 materials at specified coverage rates and film thicknesses.
3. Apply flexible membrane components uniformly without voids or thin spots.
4. Broadcast silica aggregate to full refusal.
5. Remove excess aggregate prior to topcoat application.
6. Apply topcoat within manufacturer recommended recoat windows.
7. Finished surface shall be uniform and free of defects, puddles, roller marks, and dry areas.

3.4 FIELD QUALITY CONTROL

1. Inspect completed flooring for uniformity, texture, 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.
6. Reapplication of finish coats may be required over time due to abrasion, UV exposure, weathering, chemical exposure, and traffic wear.

END OF SECTION