

FGP UC FLAKE SYSTEM

INDUSTRIAL-GRADE DECORATIVE URETHANE CEMENT FLAKE SYSTEM

NOMINAL THICKNESS: 187.5 Mils (3/16")
FINISH: Textured Gloss

SYSTEM DESCRIPTION

FGP UC Flake System is a heavy-duty urethane cement flooring system designed for demanding environments requiring durability, chemical resistance, and thermal shock performance. Its moisture-tolerant urethane cement matrix with full flake broadcast creates a seamless, wear-resistant surface that withstands thermal cycling while maintaining strong adhesion to properly prepared concrete. The system provides high compressive strength, impact resistance, and long-term protection against abrasion and surface degradation.

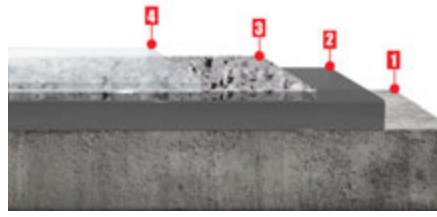
KEY FEATURES

- ✓ Heavy-duty urethane cement matrix for severe service conditions
- ✓ Excellent thermal shock resistance for rapid temperature changes
- ✓ Moisture-tolerant system with strong bond to properly prepared concrete
- ✓ High compressive and impact strength for demanding environments
- ✓ Slip-resistant texture for improved surface safety performance
- ✓ Dense, non-porous surface supports hygienic, easy-to-clean conditions
- ✓ Cost effective lifecycle performance in demanding environments

PERFORMANCE MATRIX

PROPERTY	RATING
DURABILITY	●●●●●
ABRASION RESISTANCE	●●●●○
CHEMICAL RESISTANCE	●●●●○
THERMAL RESISTANCE	●●●●●
FLEXIBILITY	●●○○○
MVE TOLERANCE	●●●●○

SYSTEM STRUCTURE



1	SUBSTRATE: Concrete w/ CSP Level 3-5
2	BASECOAT: Urethane Cement Trowel @ 25 Ft²/ Kit (1/4")
3	BROADCAST: Decorative Flake @ 0.13 lbs/ Ft² (Full Refusal)
4	TOPCOAT: Clear Aspartic 85/100 @ 135-160 Ft²/ Gal (10-12 Mils)

TYPICAL APPLICATIONS

- Commercial Kitchens
- Beverage Production
- Pharmaceutical
- Manufacturing
- Laboratories
- Schools
- Universities
- Dormitories
- Student Housing
- Cafeterias
- Healthcare Support Areas
- Clinics

TECHNICAL PROPERTIES

HARDNESS	ASTM D2240	Shore D 80
COMPRESSIVE STRENGTH	ASTM C579	8,570 psi
TENSILE STRENGTH	ASTM C307	1,508 psi
FLEXURAL STRENGTH	ASTM C580	2,316 psi
COEFFICIENT OF THERMAL EXPANSION 73°F TO 210°F	ASTM C531	1.7 x 10 ⁻⁵ in/in/F
ADHESION	ASTM D7234	450 psi Concrete Failure
ABRASION RESISTANCE CS-17 WHEEL, 1000G LOAD, 500 CYCLES	ASTM D4060	20 mg loss
IMPACT RESISTANCE	ASTM D2794	258 in-lbs
MVE TOLERANCE	ASTM F1869	20 lbs/1,000 ft²/24 hrs
SLIP RESISTANCE (DCOF)	ANSI 326.3	0.85-0.95
FIRE PERFORMANCE	ASTM E84	Class B
LIGHT FOOT TRAFFIC		24 Hours
HEAVY TRAFFIC		48 Hours
FULL CURE		5-7 Days

*The above physical properties were measured in accordance with the referenced standards. Results may vary based upon statistical variations on mixing methods, equipment, application methods, environment, actual site conditions, and curing conditions. All sample preparation and testing are conducted in a laboratory environment and actual performance on job site may vary from these values based on actual site conditions.

LIMITATIONS

- ✗ Not recommended for continuous heavy steel-wheel or tracked equipment traffic
- ✗ Performance can be reduced in areas with constant chemical immersion
- ✗ Not recommended for wet or equipment-traffic environments
- ✗ Not suitable for continuous immersion or highly concentrated chemical exposure

REQUIREMENTS

1. Substrate Requirements (General Ranges)

- ✓ **Compressive Strength:** $\geq 3,000$ psi (typical minimum)
- ✓ **Tensile Strength:** Sound, structurally stable concrete required
- ✓ **Surface Porosity:** Open, absorptive profile (CSP 2–5 typical depending on system)
- ✓ **Mohs Hardness:** Concrete substrate ~5–7 (no soft, friable surfaces permitted)
- ✓ **pH Range:** 7.0–10.0 (neutral to mildly alkaline acceptable range)
- ✓ **Moisture Vapor Emission (MVER):** 0–25 lbs/1,000 ft²/24 hrs (system dependent)
- ✓ **In-Slab Relative Humidity:** ≤ 75 –95% RH per ASTM F2170 (system dependent)
- ✓ **Contamination:** Free of oil, grease, curing compounds, sealers, and laitance

2. Environmental Conditions

- ✓ **Ambient Temperature:** 60°F – 85°F (ideal working range)
- ✓ **Substrate Temperature:** 50°F – 85°F
- ✓ **Product Temperature:** Condition materials to 65°F – 75°F before installation
- ✓ **Relative Humidity:** $\leq 80\%$ recommended during application
- ✓ **Dew Point:** Substrate must be minimum 5°F above dew point
- ✓ **Ventilation:** Adequate air movement required; avoid stagnant air conditions

3. Surface Preparation Requirements

- ✓ Mechanically prepare substrate via shot blasting, grinding, or equivalent method. Achieve specified CSP (Concrete Surface Profile) per system requirement (CSP 2-5 typical)
- ✓ Remove all weak, friable, or contaminated concrete
- ✓ Repair cracks, spalls, and voids prior to system installation
- ✓ Vacuum and remove all dust and debris prior to application

4. Testing & Verification (Recommended)

- ✓ ASTM F2170 – In-slab relative humidity testing
- ✓ ASTM F1869 – Calcium chloride MVER testing
- ✓ pH testing of concrete surface
- ✓ Porosity testing of concrete surface to ensure proper profile
- ✓ Mohs Scratch test to verify concrete hardness
- ✓ Infrared Thermometer and Hygrometer to verify ambient, product and surface conditions

5. Safety Requirements (PPE & Handling)

- ✓ Wear appropriate PPE: gloves, safety glasses, long sleeves
- ✓ Use respiratory protection where ventilation is limited
- ✓ Avoid skin contact with uncured resins and hardeners
- ✓ Follow all SDS safety guidelines for each product component
- ✓ Keep away from ignition sources where applicable (solvent-based or reactive systems)
- ✓ Ensure adequate ventilation during mixing and application

6. Limitations (General)

- ✓ Review system and product limitations
- ✓ Ensure products and system applied is for designed purpose and suitable for environment
- ✓ Dynamic substrates require application of flexible membrane
- ✓ Performance varies based on substrate condition, environment, and installation quality
- ✓ Not a substitute for proper concrete design, drainage, or structural integrity

MIXING GUIDELINES

- All materials must be mixed in strict accordance with manufacturer-specified ratios.
- Pre-mix each component separately when required, then combine using a low-speed mechanical mixer to ensure uniform consistency without introducing excessive air.
- Mix until color and viscosity are fully homogeneous, scraping sides and bottom of the container during blending.
- Do not vary mix ratios, thin materials, or introduce unapproved additives.
- Only mix quantities that can be installed within the stated pot life.
- Mixed material should be used immediately and not re-tempered or reconstituted after initial gel or viscosity increase.

COVERAGE RATE, WORKING TIMES & POTLIFE GUIDELINES

Coverage Rate

- Theoretical coverage based on ideal substrate conditions
- Varies with surface profile (CSP), porosity, and absorption rate
- Affected by application method, film thickness, and installer technique
- Jobsite conditions may significantly reduce or increase actual yield
- Allow for appropriate waste factor and overage on projects

Working Time (Open Time)

- Usable application window after material is placed on substrate
- Temperature-dependent (higher temps = shorter working time)
- Humidity and substrate temperature accelerate set and cure
- Product must be placed and finished within working window
- Do not rework material once it begins to gel or lose flow

Pot Life

- Time mixed material remains usable in the container
- Highly dependent on ambient temperature and batch size
- Larger mix volumes reduce pot life due to exothermic heat buildup
- Material must be installed immediately after mixing
- Do not re-temper, re-thin, or attempt to extend pot life once reaction begins

General Disclaimer

- All values are approximate and for guidance only
- Field conditions will directly impact coverage, working time, and pot life
- Installer is responsible for monitoring material condition during application
- Exceeding pot life or working time may result in poor cure or adhesion failure
- Always follow technical data sheets and approved installation procedures
- Manufacturer is not responsible for failures due to improper mixing or installation practices

APPLICATION GUIDELINES

- Use only approved primers and system components
- Maintain proper coverage rates and film thickness by using specified tooling and application equipment
- Refer to individual product Technical Data Sheets (TDS) for specific application procedures, cure schedules, and installation requirements
- Do not exceed recommended recoat windows
- Ensure uniform application without puddling or dry spots
- Broadcast aggregates (if applicable) to rejection as specified after 10-15 minutes depending on temperatures
- Do not overwork product or exceed working time limits

CLEANING & MAINTENANCE GUIDELINES

- Use pH-neutral cleaners for routine maintenance
- Avoid harsh solvents, caustic cleaners, or abrasive pads unless approved
- Remove spills promptly to reduce staining or surface degradation
- Use non-metallic scrub pads or soft-bristle cleaning equipment where applicable
- Establish a routine cleaning schedule based on traffic and exposure conditions
- Avoid prolonged exposure to standing water, harsh chemicals, or abrasive debris
- Protective pads are recommended beneath heavy equipment or movable fixtures where applicable
- Periodic inspection and maintenance are recommended to preserve long-term appearance and performance
- Reapplication of finish or topcoat layers may be required over time due to traffic, abrasion, UV exposure, chemical exposure, or general wear to maintain coating performance and surface protection

SPECIFICATIONS

- Must be installed by trained and approved applicators
- All substrate conditions must meet specified requirements prior to installation
- Deviations from system design require written approval
- System performance is dependent on substrate preparation and environmental conditions

FIELD VARIABILITY

- Color, texture, gloss, and overall appearance may vary due to substrate conditions, application methods, ambient environment, and lighting.
- Minor variations between batches, production runs, or installation areas are inherent to resinous flooring systems and are not considered defects.
- Final appearance may also be influenced by concrete porosity, surface preparation, and jobsite conditions at the time of installation.

WARRANTY & LIABILITY DISCLAIMER

- System performance is dependent on proper installation and site conditions
- Manufacturer is not responsible for substrate failure or improper preparation
- No warranty is implied beyond published technical data
- Installer assumes responsibility for substrate evaluation and suitability
- Field conditions may affect final appearance and performance