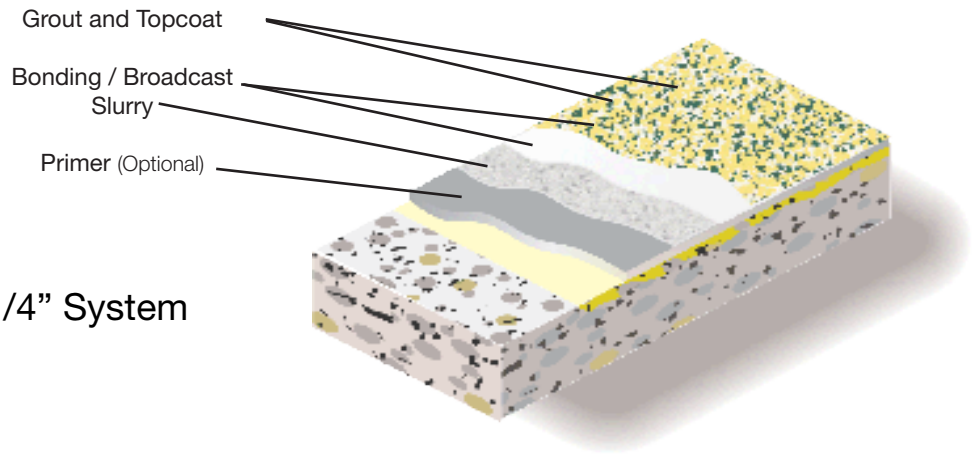
# Bio-Flake®
# Decorative Flooring System

**General Polymers Bio-Flake Decorative Flooring System** is a 3/16" - 1/4" slurry, designed to provide a functional yet aesthetic floor system for pharmaceutical, research and biotech applications or other areas where a decorative heavy duty floor is desired. The system combines a fast curing , moisture insensitive, three-component base material with a mosaic broadcast, sealed with a high gloss, UV stable, clear topcoat. Bio-Flake Decorative Flooring System is applied with a screed rake or flat trowel over a properly prepared concrete substrate or as an overlay to existing well bonded resinous floors.




3/16" - 1/4" System

## Advantages

- Fast turnaround time
- Moisture insensitive
- High temperature resistance
- Attractive yet functional
- Wide selection of colored chip blends
- No moisture testing required
- Chemical Resistant to a broad range of sterilants and disinfectants to include:
  Steris: CIP 100, 200, 220, 300, Spor-Klenz, Vesphene, LPHSE Unicide 256, SaF Kleen, Acidulate 45T, Bleach, IPA, Clidox S, Dilute Phosphoric

## Uses

- Production floors
- Animal holding / Vivarium
- Laboratories
- Clean rooms
- Rest rooms
- Change rooms

## Typical Physical Properties

| | | |
|---|---|---|
| Color | | As approved |
| Cure Time | Recoat | 3-4 hours |
| | Foot Traffic | 6-8 hours |
| | Full Service | 10-12 hours |
| Abrasion Resistance ASTM D 4060, CS-17 Wheel | | 20-30 mgs lost |
| Adhesion ASTM D 4541 | | 300 psi concrete failure |
| Hardness, Shore D ASTM D 2240 | | 75 |
| Coefficient of Friction | | >0.6 |
| Critical Radiant Flux ASTM E 648 | | >1.0 |
| Smoke Denisty ASTM E 662 | | 287-346 |
| Tensile Strength ASTM C 307 | | 550-600 psi |
| Compressive Strength ASTM C 579 | | 5,000 psi |
| Flexural Strength ASTM C 580 | | 3,700 psi |
| Impact Resistance MIL-D-3134, Sec.4.7.3 | | Withstands 16 ft lbs without cracking, delamination or chipping |

## Installation

The following information is to be used as a guideline for the installation of the **Bio-Flake Decorative Flooring System**. Contact the Technical Service Department for assistance prior to application.

## Surface Preparation — General

General Polymers systems can be applied to a variety of substrates, if the substrate is properly prepared. Preparation of surfaces other than concrete will depend on the type of substrate, such as wood, concrete block, quarry tile, etc. Should there be any questions regarding a specific substrate or condition, please contact the Technical Service Department prior to starting the project. Refer to Surface Preparation (Form G-1).

## Surface Preparation — Concrete

Concrete surfaces shall be abrasive blasted to remove all surface contaminants and laitance. The prepared concrete shall have a minimum surface profile equal to 40-60 grit sandpaper. Consult the Technical Service Department if oil or grease is present.

After initial preparation has occurred, inspect the concrete for bug holes, voids, fins and other imperfections. Protrusions shall be ground smooth while voids shall be filled with a General Polymers system filler. For recommendations, consult the Technical Service Department.

## Temperature

Throughout the application process, substrate temperature should be 50ºF. Substrate temperature must be at least 5ºF above the dew point. Applications on concrete substrates should occur while temperature is falling to lessen offgassing. The material should not be applied in direct sunlight, if possible.

# Application Information @ 3/16”-1/4”

| VOC MIXED | | MATERIAL | MIX RATIO | THEORETICAL COVERAGE PER COAT CONCRETE | PACKAGING |
|---|---|---|---|---|---|
| <200 g/L | **Primer** | 3477 | 2:1 | 300-400 sq. ft. / gal. | 3 or 15 gals |
| <50 g/L | **Slurry** | 4080 | One Unit | 38-40 sq. ft. / unit @3/16”<br>28-30 ft. / unit @ 1/4” | 2 gals (Short Filled) |
| 0 | | 5080 | One Unit | 55 lbs / unit | 55 lbs / bag |
| <100 g/L | **Bonding Coat** | 3746 | 2:1 | 200-300 sq. ft. / gal | 3 or 15 gals |
| 0 | **Broadcast** | 6750/6755 Mosaic | Broadcast for Seeding | 100 lbs / 1,000 sq. ft. | 25-50 lbs |
| <100 g/L | **Grout Coat** | 3746 | 2:1 | 200-300 sq. ft. / gal | 3 or15 gals |
| <50 g/L | **Seal Coat** | 4686 (1 coat) | 1:1 | 250-400 sq. ft. / gal | 2 or 10 gals |

Under certain conditions, an exudate can form on the surface of cured 4686. If an additional coat of 4686 is required, the surface should be sanded with a fine grit medium, (80-120 grit or finer), and then solvent wiped prior to recoating.

**For additional topcoat options consult the General Polymers Topcoat Selection Guide, or contact your Sherwin Williams representative.**

## Primer

### Mixing and Application

When the flooring system is a thin mil coating or slurry system, a primer must be applied to the concrete prior to the application of FasTop. This will prevent issues related to outgassing from the slab. Always use Prime with Epoxy Water Emulsion Primer / Sealer (3477) at 300-400 feet to the gallon 1-2 hours prior to placing the FasTop. **DO NOT USE HIGH SOLIDS EPOXY PRIMERS AS THEY WILL SEAL THE CONCRETE.**

1. Premix 3477A (resin) and 3477B (hardener) separately, using a low speed drill and Jiffy blade. Mix for one minute and until uniform, exercising caution not to whip air into the materials.
2. Add 2 parts 3477A (resin) to 1 part 3477B (hardener) by volume. Mix with low speed drill and Jiffy blade for three minutes and until uniform. DO NOT mix more material than can be used within 4 hours. Apply material with a short nap roller at a spread rate of 300-400 sq. ft. per gallon. blush with detergent wash prior to applying wearcourse.

DO NOT ALLOW TO PUDDLE. Any uneven or textured surfaces will require more material than an even surface.

## Slurry Coat

### Mixing and Application

DO NOT PREMIX 4080 PART B HARDENER. OVER EXPOSURE TO AIR EFFECTS PHYSICAL PROPERTIES

1. Add 4080A (resin) to 4080B (hardener) and mix with low speed drill and Jiffy blade for 15 seconds or until uniform.
2. Slowly pour 55 lbs. 5080 Neutral aggregate and blend materials for 30 seconds or until no lumps remain. Immediately pour mixed material onto the substrate and pull out using a pin rake, screed rake or flat trowel. Use a looped roller to evenly distribute material. If concrete displays excess outgassing, use a spiny roller to break bubbles. Allow material to self-level (5-10 minutes).
3. Allow to cure 12 hours, must be hard enough to stand or walk on without leaving marks.

## Bonding Coat

### Mixing and Application

1. Sand or grind surface of slurry coat to provide proper intercoat adhesion with bonding coat.
2. Premix 3746A (resin) using a low speed drill and Jiffy blade. Mix for one minute and until uniform, exercising caution not to whip air into the materials.
3. Add 2 parts 3746A (resin) to 1 part 3746B (hardener) by volume. Mix with low speed drill and Jiffy blade for three minutes and until uniform. Apply material using a 1/4" nap roller at a spreada rate of 200-300 sq. ft. per gallon.
4. Broadcast 6750/6755 Mosaic Broadcast to saturation (about 100# per 1000 square feet). Broadcast floor within 20-30 minutes of placement.
5. Allow to cure for a minimum of 6-8 hours. All imperfections such as high spots should be smoothed before the application of the grout coat.

NOTE: Even and complete distribution of the 6750/6755 Mosaic Broadcast is critical to the success of the application. The floor's finished appearance depends on the manner in which the 6750/6755 has been applied. In grass seed like fashion, allow the 6750/6755 to fall after being thrown upward and out. **DO NOT THROW DOWNWARD AT A SHARP ANGLE USING FORCE.**

## Grout Coat

### Mixing and Application

1. Premix 3746A (resin) using a low speed drill and Jiffy blade. Mix for one minute and until uniform, exercising caution not to whip air into the materials.
2. Add 2 parts 3746A (resin) to 1 part 3746B (hardener) by volume. Mix with low speed drill and Jiffy blade for three minutes and until uniform. Apply material using a 1/4" nap roller at a spreada rate of 200-300 sq. ft. per gallon.
3. Allow to cure for a minimum of 6-8 hours. All imperfections such as high spots should be smoothed before the application of the seal coat

NOTE: If using 4844 PAce-Cote as the final seal coat, you must lightly and uniformly sand the cured 3746 grout to remove surface gloss.

## Seal Coat

### Mixing and Application

DO NOT PREMIX PART B .

1. Premix 4686 (resin) using a low speed drill and Jiffy blade. Mix for one minute and until uniform, exercising caution not to introduce air into the material.
2. Add 1 part 4686A (resin) to 1 part 4686B (hardener) by volume. Mix with low speed drill and Jiffy blade for three minutes and until uniform. To insure proper system cure and performance, strictly follow mix ratio recommendations.
3. Apply 4686 using a 1/4" nap roller at a spread rate of 250-400 square feet per gallon, evenly, with no puddles making sure of uniform coverage. Take care not to puddle materials and insure ven coverage. If a second coat is required, the surface must be abraded with 80-120 grit paper or screen and tack wiped prior to second application.
4. Allow to cure 24 hours minimum before opening to traffic. In cool and/or high humidity conditions, a surface film may form which can be washed with soap and water.

## Cleanup

Clean up mixing and application equipment immediately after use. Use toluene or xylene. Observe all fire and health precautions when handling or storing solvents.

## Safety

Refer to the MSDS sheet before use. All applicable federal, state, local and particular plant safety guidelines must be followed during the handling and installation and cure of these materials.

Safe and proper disposal of excess materials shall be done in accordance with applicable federal, state, and local codes.

## Material Storage

Store materials in a temperature controlled environment (50ºF - 90ºF) and out of direct sunlight.

Keep resins, hardeners, and solvents separated from each other and away from sources of ignition.

## Maintenance

Occasional inspection of the installed material and spot repair can prolong system life. For specific information, contact the Technical Service Department.

## Disclaimer

The information and recommendations set forth in this document are based upon tests conducted by or on behalf of The Sherwin-Williams Company. Such information and recommendations set forth herein are subject to change and pertain to the product(s) offered at the time of publication. Published technical data and instructions are subject to change without notice.

Consult www.generalpolymers.com to obtain the most recent Product Data information and Application instructions.

## Warranty

The Sherwin-Williams Company warrants our products to be free of manufacturing defects in accord with applicable Sherwin-Williams quality control procedures. Liability for products proven defective, if any, is limited to replacement of the defective product or the refund of the purchase price paid for the defective product as determined by Sherwin-Williams, NO OTHER WARRANTY OR GUARANTEE OF ANY KIND IS MADE BY SHERWIN-WILLIAMS, EXPRESSED OR IMPLIED, STATUTORY, BY OPERATION OF LAW OR OTHERWISE, INCLUDING MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE.

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