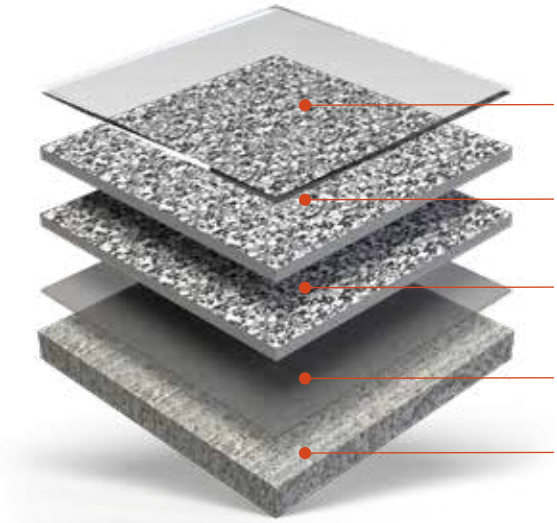
SIMFLAKE DB SYSTEM GUIDE



TOPCOAT: POLYASPARTIC HS SLOW CURE

2ND BASECOAT/BROADCAST: 1100SL 100% SOLIDS EPOXY & DECORATIVE CHIP

1ST BASECOAT/BROADCAST: 1100SL 100% SOLIDS EPOXY, PIGMENTED & DECORATIVE CHIP

PRIMER: SIMIRON EPOXY

PREPARED SUBSTRATE: CSP 3+

NOTE: PLEASE READ AND REVIEW THESE INSTRUCTIONS PRIOR TO INSTALLATION OF THE COATING SYSTEM. OTHER SIMIRON PRODUCTS MAY BE USED AS ALTERNATIVE PARTS OF THIS SYSTEM. CONTACT SIMIRON TECHNICAL SUPPORT AT CUSTOMERSERVICE@SIMIRON.COM OR 866-515-8775.

DESCRIPTION

SIMIRON SIMFLAKE DB is a versatile, double-broadcast floor system that utilizes **Simiron Decorative Chip** to achieve easy to maintain, long-lasting results. This four-layer system offers 12 standard blends. The featured system has a gloss finish, but optional satin and non-skid texture is available. **Simflake DB** consists of a primer, two ¼" vinyl chip broadcast layers and topcoat. The defined system will produce the same properties as **Simflake SB** with increased thickness for areas that have this need.

PRODUCT INFORMATION

PRODUCT NAME	SIZE	COLOR/FINISH	ITEM NUMBER
1000HS 100% Solids Epoxy Primer	1.5-Gallon Kit	Clear / Gloss	40008895
1100SL 100% Solids Self-Leveling Epoxy (1st Basecoat)	2-Gallon	Clear / Gloss	40004156
1100SL 100% Solids Self-Leveling Epoxy (2nd Basecoat)	1-Gallon	Clear / Gloss	40004155
Decorative Chip	40 lb. Box	Variety of Blends	See simiron.com
Polyaspartic HS Slow Cure	2-Gallon Kit	Clear / Gloss	40008919
Polyaspartic HS Activator 5-Gallon	5-Gallon	Clear	40008956
Polyaspartic HS Slow Cure Baset	5-Gallon	Clear	40008932

3 gallons 1100SL clear can be pigmented with 1 pint Simiron U-Tint in a variety of colors, including: Haze Gray, Light Gray, Deck Gray, Sandstone, White, Black, & Tile Red (2 pints White and Sandstone can be used to improve hide).. Polyaspartic HS is also available in medium and fast cure speeds.

COVERAGE RATES

PRODUCT NAME	WET FILM THICKNESS	DRY FILM THICKNESS	COVERAGE RATE
1000HS 100% Solids Epoxy Primer	3 – 8 mils	3 – 8 mils	200 – 533 sq. ft./gal.
1100SL 100% Solids Self-Leveling Epoxy (1st Basecoat)	8 – 12 mils	8 – 12 mils	134 – 200 sq. ft./gal.
1100SL 100% Solids Self-Leveling Epoxy (2nd Basecoat)	12 – 16 mils	12 – 16 mils	100 – 133 sq. ft./gal.
Decorative Chip	N/A	N/A	6 sq. ft./lb. or 240 sq. ft. per 40 lb. box
Polyaspartic HS Slow Cure	10 – 16 mils	9 – 14 mils	100 – 160 sq. ft./gal.

PHYSICAL PROPERTIES

TEST NAME	TEST METHOD	RESULT
Adhesion to Concrete	ASTM D7234	> 400 PSI (100% Concrete Failure)
Coefficient of Friction (Wet DCOF)	ANSI A326.3	.55
Compressive Strength	ASTM D695	11,600 psi
Elongation	ASTM D2370	5 – 10%
Flammability		Self-Extinguishing on Concrete
Flexibility 1/8" Mandrel	ASTM D522	Passes/No Cracking
Flexural Strength	ASTMD790	12,800 psi
Hardness, Shore D (24 hours, 5 days)	ASTM D2040	70, 86
Taber Abrasion (CS-17 Wheel, 1000 mg. Load, 1000 Cycles)	ASTM D4060	30 mg Loss
Tensile Strength	ASTM D638	9,600 psi
Gloss @ 60 Angle	ASTM D523	92 – 95
UV Resistance (gloss after 1000 hours in QUV)	ASTM G154	87 – 89
VOC	EPA Method 24	< 50 g/L

CHEMICAL RESISTANCE

CHEMICAL	RESULTS
10% Acetic Acid	G
Vinegar	G
10% Citric Acid	G
10% Hydrochloric Acid	G
30% Hydrochloric Acid (muriatic)	G
10% Nitric Acid	NR
50% Phosphoric Acid	F
10% Sulfuric Acid	F
37% Sulfuric Acid	F
70% Sulfuric Acid	F
20% Ammonium Nitrate	E
20% Sodium Chloride	E
50% Sodium Hydroxide	G

CHEMICAL	RESULTS
Methyl Ethyl Ketone	E
Xylene	E
Ethylene Glycol	E
Isopropyl Alcohol	E
Mineral Spirits	F
Brake Fluid	E
Transmission Fluid	E
Motor Oil	E
50:1 Gas/Oil Mixture	E
E85 Gasoline	E
E95 Gasoline	E
Unleaded Gasoline	E
Skydrol	E

CHEMICAL	RESULTS
Betadine	E
Bleach	E
Urine	E
Coffee	E
Cola	E
Ketchup	E
Mustard	G*
Red Wine	E

*Stain is only defect.

KEY	
E = Excellent	G = Good
F = Fair	NR = Not Recommend

SURFACE PREPARATION

Concrete and coated concrete surfaces must be sound, clean, dry, and free of contaminants such as loose coatings, dirt, dust, grease, oil, silicone, and other contaminants that may negatively affect adhesion.

MOISTURE VAPOR BARRIER: A suitable moisture barrier must be in place for concrete slabs on-grade. If a moisture barrier is not in place, seasonal variations in ground moisture can cause excessive moisture vapor transmission (MVT) regardless of results measured prior to coating application. MVT rate must not exceed three pounds per 1,000 square feet per 24 hours, as directed by ASTM F1869. The relative humidity (RH) of the slab must not exceed 75%, as directed by ASTM F2170. If there is a moisture situation in excess of the above rate, the use of Simiron MVB Moisture Vapor Barrier Primer may be required. Consult a Simiron Representative for details and application procedures.

NEW/BARE CONCRETE: Diamond grind or shotblast to a CSP-3 or greater surface profile. Refer to SSPC-SP13 / NACE 6 or ICRI Technical Guideline No. 310.2. New concrete must be cured a minimum of 28 days and should meet moisture vapor transmission (MVT) and relative humidity (RH) thresholds as described above.

SURFACE PREPARATION (CONT.)

PREVIOUSLY COATED SURFACES: Clean surface to prevent any contaminants from being spread/redistributed to a greater area being prepared. Thoroughly grind the surface with 30 grit metal diamonds to completely remove any grout or topcoats that are not epoxy based and provide proper surface profile required for adhesion of the system.

SAFETY & TECHNICAL

Refer to the SDS sheet before use. Safety precautions must be strictly followed during storage, handling, and use. Personal Protective Equipment (PPE) should be worn at all times. PPE will include (but is not limited to): Safety glasses with side shields, high-quality nitrile gloves, and properly fitted NIOSH approved respirators. To acquire additional information or technical and safety data, please visit: www.simiron.com.

TEMPERATURE

Air	60° – 85°F	16° – 29°C
Surface	60° – 85°F	16° – 29°C
Material	60° – 85°F	16° – 29°C

Higher temperatures and humidity will shorten pot-life and working time.
Floor temperature must be at least 5 degrees over the current dew point.

SET-UP & MIXING AREA

Place the mixing area as close to the project area as possible. Cover mix area with plastic, a tarp, or cardboard and securely tape to the floor. Assemble all necessary application tools, safety supplies & PPE, and clean-up supplies and place in the mixing area prior to starting the application process.

TAPE AND TERMINATION POINTS: Apply masking tape to all perimeter areas where the coating system will terminate. Sawcut and key-in all termination points around drains, dock plates, and high traffic impact points (see Simiron Drawings/Architectural Details).

PATCHING

Cracks, holes, eroded & spalled areas of the floor should be patched with Simiron 800CF Epoxy Crack Filler or a Simiron 100% Solids Epoxy thickened with fumed silica. For best results, scrape patch material flush with the surface. After priming, check to see if additional patching is required.

JOINTS

Honor all isolation, expansion, and movable joints with the appropriate joint material after the coating system is installed. Contraction (sawcut) joints may be filled and coated over; However, the coating system may crack over time if the slab experiences excessive shrinkage or movement (see Simiron Drawings/Architectural Details).

APPLICATION EQUIPMENT

Assemble all required application equipment. Equipment will include (but is not limited to):

- Drill and Jiffy® type mixing blade
- High quality non-shed 3/8" nap roller covers
- Edge rollers & chip brushes
- Painters' tape
- Duct tape
- High quality flat & notched EPDM squeegees
- Flat metal spring blade squeegee
- Spiked shoes
- Roller pans
- Measuring and mixing containers

APPLICATION PROCEDURE

1000HS Primer:

1000HS Primer mix ratio is 2 Parts Base to 1 Part Activator by volume.

1. Pre-mix Base at low speed for 1 minute. Add Activator and mix for three minutes until uniform. Do not mix more material than can be applied in 10 – 15 minutes (material will stiffen or tack-up).
2. Immediately pour mixed **1000HS Primer** on the floor in a long bead approximately 8 – 12 inches wide.
3. Wearing spiked shoes, spread evenly at 3 – 8 mils by pushing a flat squeegee or metal spring blade along the bead. Overlap previous passes in order to ensure concrete pinholes are filled. A tight, thin coat of primer with no back-roll is the best way to minimize outgassing bubbles.
4. If back-rolling, use a non-shed 3/8" roller and back-roll the primer evenly across the squeegee passes to minimize application lines and leave a consistent film thickness.
5. After the **1000HS Primer** has dried (see **1000HS** data sheet for drying schedule), apply the **1100SL** basecoat and vinyl chip broadcast.

1100SL 100% SOLIDS SELF LEVELING EPOXY: 1st Broadcast

1100SL 100% Solids Self Leveling Epoxy mix ratio is 2 Parts Base to 1 Part Activator by volume. 1100SL is a clear base that may be pigmented with 1 pint of Simiron U-Tint per 3 gallons of 1100SL. Since it is unlikely to completely cover the epoxy with a single broadcast, it is recommended to
tint the epoxy with a similar color in the blend of DECORATIVE CHIP. For example, for a predominantly gray blend of decorative chip, use a gray color of 1100SL.

1. Pre-mix Base at low speed for 1 minute. Mix **U-Tint** into the Base. Then, add Activator and mix for three minutes until uniform. Do not mix more material than can be applied in 10 – 15 minutes (material will stiffen or tack-up.)
2. Immediately pour the mixed epoxy on the floor in a long bead approximately 8 – 12 inches wide.
3. Wearing spiked shoes, spread evenly at 8 – 12 mils by pushing a 1/8" notched squeegee along the bead. Overlap previous passes in order to ensure consistent coverage.
4. Push the squeegee with a slight angle to plow extra material to the side, moving it down the floor.
5. Using a non-shed 3/8" roller, back-roll the basecoat evenly across the squeegee passes to minimize application lines and leave a consistent film thickness.
6. Allow 10 – 15 minutes for the material to level and broadcast the vinyl chip into the wet coating at the rate of 6 sq. ft. per lb. or 240 sq. ft. per 40 lb. box of **Decorative Chip**. Use caution to avoid walking in the chip after it has been broadcast onto the floor. Always leave a wet edge or a thin strip of **1100SL** without a chip broadcast to blend in different mixes of **1100SL** with the roller cover.
   Do not dump or allow Decorative Chip to pile on the floor.
7. After the **1100SL** has dried (see **1100SL** data sheet for drying schedule), vacuum excess vinyl flakes from the floor. Being careful not to damage the coating or the chips, gently scrape the floor with a floor scraper to remove any loosely bonded chip.

1100SL 100% SOLIDS SELF LEVELING EPOXY: 2nd Broadcast

Follow the same procedure as above for the first broadcast, but do not pigment the 1100SL basecoat and apply it at 12 – 16 mils.

POLYASPARTIC HS SLOW CURE: Topcoat

Slow Cure mix ratio is 1 Part Base to 1 Part Activator by volume.

1. Pre-mix Base for 1 minute. Add Activator and mix for 90 seconds or until uniform. Do not mix more material than can be applied in 10 – 15 minutes (material will stiffen or tack-up). Mix full kits only.
2. Using a flat or notched rubber squeegee (depending upon DFT required) with EPDM rubber blade, apply at a spread rate of 100 – 160 sq. ft. per gal. to yield 10 – 16 wet film thickness. Use a non-shed 3/8" roller for back-rolling.
3. In hot or humid conditions, apply via 18" roller in a dip and roll method from a roller pan as increased heat and humidity will decrease the working time of the material.
4. This material will cure faster with exposure to moisture in the air.
5. To avoid visible differences in texture or mix-to-mix "tie-ins" do not exceed 5 – 10 minutes from one mix to another.
6. Use joints as natural breaks to divide sections of the floor.
7. If less texture is desired, apply a second coating of 6 – 8 mils (no more than 200 sq. ft. per gal.) on top of the previous coat within 24 hours.

Applying thicker than recommended, allowing material to pool, or rolling into late may leave a white, hazy appearance

CLEAN UP & DISPOSAL

Clean up mixing and application equipment immediately after use. Use acetone, or xylene; do not use alcohol. Follow solvent manufacturer's safety instructions. Be sure to follow all local, state, and federal regulations when disposing of materials.

MAINTENANCE

To maintain the appearance and extend the life of the newly sealed surface, it is imperative to have a routine maintenance program. Dirt and debris that is tracked over a finished floor will quickly scratch and dull the surface. Place walk-off mats at entrances. Sweep and mop/scrub floors regularly using soft bristles/pads and a mild cleaner. Some cleaning products and equipment or improper use of these can damage a surface. Remove spills quickly to minimize damage and/or stains. For systems that support parked vehicles or other heavy items on rubber wheels, place a small piece of nonporous material, such as sheet metal or plexiglass between the tires and floor to prevent tire marks. Reapplication may be necessary in heavy traffic areas.

LIMITATIONS

⚠ Do not apply at temperatures or thicknesses not recommended. Do not delay in pouring mixed material onto the floor. Do not make partial mixes. Do not invert epoxy pails to drain. Do not apply over loose or unsound concrete, asphalt or bitumen substrates, glazed tile or nonporous brick and tile, magnesite, copper, metal, polyesters, or elastomeric membranes. Moving joints and shrinkage cracks may reflect through system. Joints that are designed to move may reflect through the finished flooring system if they are not honored. Tire marking may occur.

SHELF LIFE & STORAGE

12 months from date of manufacture when stored indoors in the original unopened container at 60°F – 85°F (16°C – 29°C) in a dry location with humidity below 65%.

⚠ Do not allow materials to freeze.

LIMITED WARRANTY

SIMIRON warrants this product to be free from defect in the material that affects its performance for a period of one year (from date of purchase). SIMIRON will replace at no charge the quantity of the coating that SIMIRON determines has failed to perform, as the sole and exclusive remedy for any breach of this warranty and/or any other defect or failure of the coating. Proof of purchase is required. Cost of labor for application of any product specifically is excluded. Warranty is void if Simiron products are mixed with or used in conjunction with materials that are substituted for Simiron products. Warranty is nontransferable.

TECHNICAL ASSISTANCE

Information is available by calling SIMIRON
Toll Free: **1.866.515.8775 / +1.248.686.3600**

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