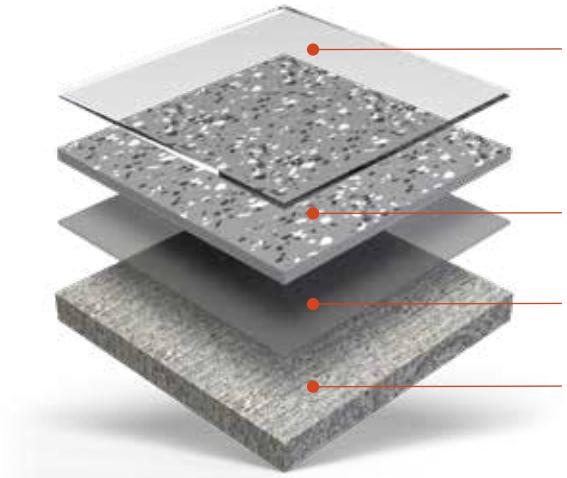
SIMFLAKE RB SYSTEM GUIDE



TOPCOAT: 971EPS EPOXY SILOXANE, CLEAR SATIN

BASECOAT: 1100SL 100% SOLIDS EPOXY, PIGMENTED & RANDOM FLAKE BROADCAST

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

SIMFLAKE RB is a 3-layer system with a random broadcast of decorative chips. This system offers a solid color epoxy background with a random pattern of vinyl flake. The recommended topcoat finish is satin and easy to apply. A gloss version is also available.

PRODUCT INFORMATION

PRODUCT NAME	SIZE	COLOR/FINISH	ITEM NUMBER
1100SL 100% Solids Self-Leveling Epoxy, Part A Base	2-Gallon	Clear / Gloss	40004156
1100SL 100% Solids Self-Leveling Epoxy, Part B Activator	1-Gallon	Clear / Gloss	40004155
Decorative Chip	40 lb. Box	Variety of Blends	See simiron.com
971EPS Epoxy Siloxane Satin	1-Gallon	Clear / Satin	40002688

3 gallons 1100SL clear can be pigmented with 1 pint Simiron U-Tint in a variety of colors, including:Light Gray, Deck Gray, Haze Gray, Black, Sandstone, Tile Red, & White.

COVERAGE RATES

PRODUCT NAME	WET FILM THICKNESS	DRY FILM THICKNESS	COVERAGE RATE
1100SL 100% Solids Epoxy Primer	3 – 8 mils	3 – 8 mils	200 – 533 sq. ft./gal.
1100SL 100% Solids Self-Leveling Epoxy	8 – 12 mils	8 – 12 mils	134 – 200 sq. ft./gal.
Decorative Chip	N/A	N/A	25 - 200 sq. ft./lb. or 1000 - 8,000 sq. ft. per 40 lb. box
971EPS Epoxy Siloxane	3 – 5 mils	2.5 – 4.1 mils	320 – 535 sq. ft./gal.

PHYSICAL PROPERTIES

TEST NAME	TEST METHOD	RESULT
Adhesion to Concrete	ASTM D4541	> 400 PSI (100% Concrete Failure)
Coefficient of Friction (Wet SCOF)	ANSI / NFSI B101.1	.50
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	ASTM D790	12,800 psi
Hardness, Shore D (24 hours, 5 days)	ASTM D2040	75
Taber Abrasion (CS-17 Wheel, 1000 mg. Load, 1000 Cycles)	ASTM D4060	40 mg Loss
Tensile Strength	ASTM D638	9,600 psi
Gloss @ 60 Angle	ASTM D523	88
UV Resistance (gloss after 1000 hours in QUV)	ASTM G154	> 85
VOC	EPA Method 24	< 100

CHEMICAL RESISTANCE

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

CHEMICAL	RESULTS
Methyl Ethyl Ketone	E
Xylene	E
Ethylene Glycol	E
Isopropyl Alcohol	E
Mineral Spirits	E
Brake Fluid	G
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	G*
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 and high-quality nitrile gloves. 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

1100SL 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 **1100SL 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 **1100SL Primer** has dried (see **1100SL** data sheet for drying schedule), apply the **1100SL** basecoat and vinyl chip broadcast.

1100SL 100% SOLIDS SELF LEVELING EPOXY: 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. For a random broadcast, the base that is broadcast into will provide the background color for the system. Tint the epoxy with a similar color in the blend of DECORATIVE CHIP.

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 16-30 mils by pushing a 1/8" notched squeegee along the bead. Overlap previous passes in order to ensure pinholes are filled.
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 25-200 sq. ft. per lb. or 1,000 - 8,000 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 additional mixes with a roller. 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), apply protective topcoat of **971EPS** Epoxy Siloxane to lock-in the chip and provide additional abrasion and chemical resistance.

971 EPS EPOXY SILOXANE: Topcoat

This product has a two part Base to one part Activator mix ratio by volume.

1. Mix material by hand using stir stick provided for 2 - 3 minutes. Do not drill mix. Never mix more than 1 kit at a time.
2. Pour mixed material into a roller pan and apply with a non-shed 3/8" nap roller cover directly to the floor at 320-535 sq. ft. per gallon. Roll once or twice to evenly cover the area and let the product settle.
3. Do not roll over or roll back into coating that has begun to tack up. This could trap air into film or cause roller marks.
4. To help prevent visual differences in application be sure to minimize the time between tie-ins. Use control joints or natural breaks as breaking points between mixes.
5. Apply at 320 to 535 sq. ft. per gallon kit for best results.

Applying thicker than recommended or allowing material to pool may cause micro-cracking and inconsistent texture/appearance in the coating.

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

⚠ Basecoat will yellow over time, so areas not covered by flake will discolor. Do not apply at temperatures or thicknesses not recommended. Do not use a drill to mix epoxy siloxane. 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**

CORPORATE OFFICE:
Simiron Inc.
3000 Research Drive
Rochester Hills, MI 48309-3580
(248) 686-3600 / (866) 515-8775

SYSTEM GUIDE: 11/25/2025

Disclaimer: *All information provided by Simiron, Inc. concerning Simiron products, including but not limited to, any recommendations and advice relating to the application and use of Simiron products, is given in good faith based on Simiron's current experience and knowledge of its products when properly stored, handled, and applied under normal conditions in accordance with Simiron's instructions. In practice, the differences in materials, substrates, storage and handling conditions, actual conditions and other factors outside of Simiron's control are such that Simiron assumes no liability for the provision of such information, advice, recommendations or instructions related to its products. The uses of Simiron product(s) for suitability for the intended application and purpose before proceeding with the full application of the product(s).*

Simiron reserves the right to change the properties of its products without notice. All Simiron product(s) are subject to its current terms and conditions of sale which are available by calling (866) 515-8775.