



EPOXY FLAKES & METALLICS

DURA-KOTE

EPOXY Flakes



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<http://www.surecretedesign.com/epoxy-flake-system/>

DURA-KOTE FLAKES

DESCRIPTION

Dura-Kote Flakes system creates a vibrant, multihued, seamless, resilient surface from plain gray concrete. Although the system is simple both in composition and installation, it yields an exceptionally durable and long lasting floor. This system is composed of a binder, one of the **Dura-Kote Epoxies** and **Dura-Kote Flakes**, random shaped polymer chips, available in 12 color options. The polymer chips provide not only the pleasing palette of color, but also add a measure of slip resistance to the surface. **Dura-Kote Epoxy** provides the structure and strength of the system. Due to these properties, the **Dura-Kote Flakes** system is ideally suited for garage floors, commercial kitchens, locker rooms, sports venues, automotive showrooms, veterinarian clinics, laundromats, or anywhere that an exceedingly resilient floor is required.

SURFACE PREP

The principles for surface preparation of the **Dura-Kote Flakes** system are aligned with other coating systems placed on concrete and remain constant; the substrate must be:

1. Clean: The surface must be free of dust, dirt, oil, grease, paints, glues, sealers, curing agents, efflorescence, chemical contaminants, rust, algae, mildew & other foreign matter that may serve as a bond breaker or prevent proper adhesion. To remove coatings, paint, sealers, glue from concrete, etc. best results are achieved through diamond grinding or shot blasting.

2. Cured: Any concrete must be sufficiently cured to have complete hydration, approximately 28 days depending on temperatures & humidity.

3. Sound: No system should be placed on flaking or spalling concrete. If the surface is delaminating, or divots are present; then diamond grinding, shot blasting, or other mechanical means should be used to remove the delaminating areas. Depending upon size of area, patching may be required prior to application of **Dura-Kote Flakes** system. **Flash Patch** or **Deep Level** is an excellent choice of patching products to complement the system. Refer to their respective spec. sheets. Also, cracks may require treatment: evaluate crack as static or structural to set expectation of treatment. Refer to spec. sheet on **SCT-22 Crack and Spall Treatment**.

Construction Joints in concrete may have sufficient movement to "telegraph" through the **Dura-Kote Flakes** system. Large expansive slabs should have planned appropriate flexible caulks to allow for this movement and prevent bridging of the **Dura-Kote Flakes** system across either side of the construction joint.

4. Profiled: For a proper bond, the surface of concrete must be opened up or roughed up to feel like 80 – 120 grit sandpaper. This profile is best accomplished through diamond grinding or shot blasting. Proper profile should follow the standard established by the International Concrete Repair Institute (ICRI) Technical Guide line no. 03732 for Concrete Surface Profile (CSP). The established profile is categorized as CSP-2 or CSP-3.



PACKAGING

25 lb. (11.34 kg) box
12 colors

COVERAGE

Full coverage = approximately 125 – 175 ft²
(11.6 – 16.3 m²) per box

Note: Separate Binder and Finish Coat required for system, described under APPLICATION below

SHELF LIFE

Under normal, moisture free conditions 12 months for unopened container.

5. Limit Moisture: Since the **Dura-Kote Flakes** system is not vapor permeable and due to the uncertainty of vapor barriers placed beneath concrete, testing prior to application is appropriate.

a. Plastic sheet test (ASTM-D-4263) can often identify excessive moisture vapor transmission. Tape all 4 sides of an 18" (45 cm) square of clear plastic to the slab and leave in place for 16 hours. Any condensation formed or darkening of the slab beneath the plastic indicates the surface is too wet for an epoxy.

b. Calcium Chloride test (ASTM-F-1869) will quantify the amount of moisture that is transmitted to surface of the slab. The moisture measurement is expressed in terms of pounds (kg) per 1,000 ft² (m²) per 24 hours. Measurements that are in excess of 3 pounds per 1,000 ft² (1.4 kg per 100 m²) over 24 hours are too wet for an epoxy. Follow directions of test kit manufacturer.

Note: these observations and measurements may be inherently flawed as they are "snapshots in time". These tests serve only as guidelines.

TEMPERATURE/CURE

Avoid application on extremely cold or hot days or during wet, foggy weather. Basic rules include:

- Apply with ambient and surface temperatures ranging above 50°F (10°C) and below 90°F (32°C) and that will remain within ranges for at least 12 hours following application.
- Surface temperature must be a minimum 5°F (3°C) above dew point.
- Relative humidity should be below 75%.

Cure Rates @ 77°F (25°C)

Dry to touch = 4 - 5 hrs.
Light traffic = 16 hrs.
Full cure = 5 - 7 days

Cure Rates @ 50°F (10°C)

Dry to touch = 18+ hrs.
Light traffic = 30 hrs.
Full cure = 14 days

APPLICATION

Planning

1. Select appropriate PPE (personal protection equipment). Provide adequate ventilation. Refer to MSDS.
2. Work across the narrowest dimension of an area where practical.
3. Work to an exit from wet product.
4. To track coverage rate for each box of flakes, after establishing room dimensions, before mixing commences, place a short piece of masking tape on the wall to correspond to the "distance" one box should cover.

Mask all areas requiring protection; product will stick to just about everything

Binder Coat

Binder coats may be either *Dura-Kote Pigmented Epoxy 100*, *Dura-Kote Pigmented Epoxy WB*, or *Dura-Kote PFC 180*, Complementary Binder Coat colors are suggested with *Dura-Kote Flakes*, or any of the 100's of colors available may be selected.

Some applicators may elect to use *Dura-Kote Pigmented Epoxy WB* for its simplicity in placement and increased square footage coverage, as it is applied in a thinner millage.

For floors having numerous small holes or divots (e.g. blow-outs from carpet tack strip), *Dura-Kote Pigmented Epoxy 100* can fill and "self-level" across the areas that would otherwise require patching, as it can be applied in much thicker millage.

Some applicators prefer the quick dry time of *Dura-Kote PFC 180* that allows projects to be completed in a single day.

For specific directions on *Binder Coat* refer to the appropriate spec. sheet.

While the binder coat is still wet, the broadcasting of *Dura-Kote Flakes* is ready.

Broadcasting

The applicator must work in spiked shoes throughout the broadcasting. Toss by hand the *Dura-Kote Flakes* upward so that they float down to the wet *Binder Coat*. Broadcast sufficient flakes to rejection; completely cover the surface. If the floor has low spots where the *Binder Coat* is deeper, flakes may "sink." Broadcast sufficient flakes to completely saturate the low spot. Allow the floor to dry / cure sufficiently, usually 8 – 10 hours, depending on temperature.

Clean-up flakes

Scrape the floor vigorously with a metal floor scraper to remove excess *Dura-Kote Flakes*. Utilize a stiff push broom to help this process. Depending upon size of area, a leaf blower may be appropriate. For large interior areas, vacuuming is appropriate. For a smoother finish, the floor may be screened with a 100 grit sanding screen on a rotational floor machine. The left over flakes may be gathered and bagged for use on another project.

Finish Coat

For superior abrasion and chemical resistance the system requires a protective *Finish Coat*. There are several choices that have varying advantages:

- *Dura-Kote Polyurethane SB (gloss)* – high gloss
- *Dura-Kote Epoxy 100* – high build
- *Dura-Kote Polyurethane WB (gloss)* – low VOC
- *Dura-Kote Polyurethane WB (satin)* – tone down the gloss
- *Dura-Kote PFC 120* – quick dry
- *Dura-Kote PFC 180* – quick dry, moderate build

For specific directions on finish coat refer to the appropriate spec. sheet.

SLIP RESISTANCE

Two recognized US agencies have issued directives on minimum coefficient of friction, OSHA (Occupational Safety and Health Administration) and Department of Justice through the ADA (Americans with Disabilities Act). ADA is the more stringent of the two. ADA directs that accessible walkways have a minimum coefficient of friction of 0.6. Ramps have been directed to be 0.8. The applicator assumes the responsibility to meet these standards. Areas that may become wet, oily, or greasy require special attention. Refer to spec. sheets on *SureGrip (Additive)* and its accompanying coefficient of friction table.

SUITABILITY SAMPLE

Due to condition specific sites, always prepare an adequate number of test areas. Wear protection system and aesthetic suitability for products' intended use should be included. On site sample approval is especially critical on substantial, heavy traffic situation or custom coloration.

CLEAN-UP

Before *Dura-Kote Flakes* dry; spills and tools can be cleaned up with a solvent such as xylene or acetone.

DISPOSAL

Contact your local government household hazardous waste coordinator for information on disposal of unused product. Upon curing, left over catalyzed product is not hazardous.

LIMITATIONS

- For use by trained professionals that have read the complete SDS.
- Product is strictly for interior use, upon well drained concrete slab with appropriate vapor barrier, subject to no hydrostatic pressure.
- When masking use caution while taping to a floor that is not completely cured, especially at edges, as delamination may occur.
- Protect from metal wheel traffic and some furniture where point of contact may be damaging.
- Chemicals used in tire manufacturing may be detrimental to all sealers from vehicular parking.

WARRANTY

Warranty of this product, when used according to the directions, is limited to refund of purchase price, or replacement of product (if defective), at manufactures/seller's option. SureCrete Design Products shall not be liable for cost of labor or direct and/or incidental consequential damages.

CAUTIONS

KEEP OUT OF REACH OF CHILDREN. Keep areas ventilated to prevent the accumulation of vapors. **Inhalation:** Avoid prolonged breathing of vapors. Use NIOSH approved respirator for organic vapors if threshold limit values are unsafe. **Skin Contact:** Skin contact may cause irritation. Remove contaminated clothing and wash affected skin with soap and water. Launder clothing before reuse. If symptoms persist, seek medical attention. **Eyes:** Wear safety eye protection when applying. Contact with eyes may cause irritation. Flush eyes with water for 15 minutes. If symptoms persist, seek medical attention.

SAFETY DATA SHEETS

The following are links to all available safety data sheets related to this product:

- [sealers-dura-kote-epoxy-flakes-sds.pdf](#)