

DK 180

THICK BUILD POLYASPARTIC



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DESCRIPTION

DK 180™ is a specially formulated 80% solids hybrid solvent based polyaspartic coating. Unlike many polyaspartics, it has a user-friendly pot life of approximately 20 minutes and the ability to create a moderate build (6 ½ mil) single coat top coat. Turnaround time for a floor may be as little as 6 – 8 hours. Epoxy flakes may be covered in a single pass. **DK 180** provides a low VOC (<200 g/L), UV stable, penetrating, film forming, color enhancing, and high gloss, moderate build wear surface. The rapid cure time eliminates excessive waiting to return a floor to service. It is ideally suited for both commercial and residential settings: aircraft hangars, clean room floors, manufacturing facilities, warehouses, bars, clubs, retail stores, automotive showrooms, residential interiors, garage floors, stadiums, or any high traffic area where an exceedingly resilient floor is desired.

SURFACE PREP

The principles for surface preparation for **DK 180** are aligned with other coating systems placed on concrete or cement based overlays, 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 and 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. Cement based overlays typically cure sufficiently within 2 – 3 days.

3. Sound: No system should be placed on flaking or spalling concrete or cement based overlay. If the surface is delaminating, or divots are present, 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 **DK 180**. **Flash Patch** or **Deep Patch** is an excellent choice as a patching product to complement the system. Refer to their respective spec. sheets.

As a moderate mil coating, **DK180**, will never bridge construction joints in concrete. Large expansive slabs should have planned appropriate flexible caulks to allow for movement.

Cracks in concrete may likewise require treatment: evaluate crack as static or structural to set expectation of treatment. Refer to spec. sheet on **SCT-22 Crack and Spall Treatment**.

4. Profiled

a. Concrete: For a proper bond, the surface of concrete must be opened up or roughed up to feel like 80 – 180 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 Guideline no. 03732 for Concrete Surface Profile (CSP). The established profile is categorized as CSP-1 or CSP-3. Customarily cement-based overlays do not require profiling.



PACKAGING

1 gal. (7.6 liter) kit

1 gal. (3.8 liter)

short filled can containing 3 qt. part A

1 qt. (.9 liter) cans part B

OR

4 gal. (15.1 liter) kit

5 gal. (18.9 liter)

short filled pail containing 3 gal. (11.4 liter) part A

1 gal. (3.8 liter) pail part B

MIXING RATIO 3:1 (3 part A to 1 part B)

COVERAGE

Varies upon substrate: approximately 150 - 200 ft² per gal. (14 - 18.5 m² per 3.8 liter) 11 - 8 mils wet; 8.8 - 6.4 mils cured

SHELF LIFE

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

b. Finish or Top Coat that completes any **Dura-Kote (DK) System**: Screen the preceding coat with a 100 grit sanding screen on a rotational floor machine. This screening will ensure not only a good bond between coats, but also eliminate any debris or dust that may have settled onto the preceding coat as it was curing. Follow screening with vacuuming. Follow vacuuming with a micro-fiber wipe with a solvent such as xylene, acetone, or denatured alcohol. Listed below are some common systems requiring a *Finish or Top Coat*:

- [DK Flakes](#)
 - [DK Metallics](#)
 - [ColorTec 500 \(100% Solids Epoxy\)](#)
 - [ColorTec 600WB \(Water Based Epoxy\)](#)
- Any other **Dura-Kote specialty system**

5. Limit Moisture: Since **DK 180** 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 polyurethane.

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 polyaspartic. 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 hot days or during wet, foggy weather. Basic rules include:

- Apply with ambient and surface temperatures ranging above 32°F (0°C) and below 90°F (32°C) and that will remain within ranges for at least 12 hours following application.

Note: as temperature falls below 60°F (10°C) part B will "thicken". To empty part B from container will require moving into a heated space until the viscosity allows product to pour.

- Surface temperature must be a minimum 5°F (3°C) above dew point.
- Relative humidity should be below 75%.

Cure Rates @ 80°F (27°C)

Dry to touch = 2 hrs
Light traffic = 4 – 6 hrs.
Heavy Traffic = 24 hrs.
Full cure = 1 – 2 days

Cure Rates @ 40°F (4°C)

Dry to touch = 6 – 8 hrs.
Light traffic = 24 hrs.
Heavy Traffic = 3 days
Full cure = 7 days

APPLICATION

Planning

1. Product is flammable, turn off all fuel burning appliances and pilot lights. Be certain there are no potential sources of ignition.
2. Provide for ventilation so that vapors do not accumulate.
3. Select appropriate PPE (personal protection equipment). Use of a NIOSH approved respirator is required. Refer to SDS.
4. Work across the narrowest dimension of an area where practical.
5. Work to an exit from wet product.
6. Track coverage rate for each premeasured kit: after establishing room dimensions, before mixing commences, place a short piece of masking tape on the wall to correspond to the "distance" one kit should cover. Product should cover approximately 150 - 200 ft² per gal. (14 - 18.5 m² per 3.8 liter) 11 - 8 mils wet.

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

Mixing and handling

1. Organize mixing station that neither has to relocate, nor block the progress of application. Staging is critical so that part A and part B are not confused with one another or mixed too far in advance. Once A and B are mixed, the catalyzed product should be placed on the floor within 20 minutes. If left in the pail too long, product will cure at an accelerated rate rendering it useless.
2. Pour 1 part B into 3 parts A. Note that kits are premeasured for convenience.
3. Mechanically mix (with Jiffy style mixer) both parts A and B for 2 minutes at medium speed.
4. Transfer contents into an appropriately sized pan our pail equipped with a roller grid.
5. Do not leave pail upside down to drain onto floor. Any unmixed portion of A or B that may have accidentally been placed onto side of pail can now drain down onto the floor, creating a spot that will not cure.
6. Clean out or replace mixing pails, mixer blades, and roller covers in a reasonable fashion, so that the chemistry of A and B remain consistent, especially over large projects.

First coat

1. Select applicator (product designed to be rolled, never sprayed)
 - a. As a moderate mil system, most commonly a roller ranging in nap size from ¼" (6 mm) to ½" (12 mm) is appropriate.

- b. Rollers should be premium quality with phenolic core.
 - c. "De-fuzz" roller by wrapping tightly with masking tape and removing tape.
 - d. As a top coat over [DK Flakes](#), a squeegee may be appropriate for spreading prior to back rolling.
 - e. Large areas may require 18" (46 cm) rollers and wider squeegees
2. Saturate roller in pan or pail with roller grid, and remove excess product to prevent excessive dripping. Any drips require rolling out.
 3. Apply product in an area that can comfortably be covered with the material on a wet roller. Before the roller begins to dry out, become tacky and "pull", backroll the same area. Do not over work, as product has self-leveling characteristics.
 4. Saturate roller again and cover another similar size area maintaining a wet edge between the two areas. Large expansive areas will require sufficient manpower and / or appropriately sized rollers to accomplish the wet edge. To illustrate: an area that has dried for 30 minutes will "pull" on the roller as wet product is applied next to it, leaving an unsatisfactory finish. Roller covers will require replacing periodically to prevent catalyzed product from setting up on roller cover or contaminating more freshly placed material. Areas of overlap must be wet on wet. Do not over work by excessive rolling.
 5. Cut in by brush areas adjacent to walls.

Note: First coat may "stand alone" as a single coat depending upon application selected, or applicator and client choice. First coat may also serve as Finish or Top Coat for several of DK Specialty Systems, some are listed below:

- [DK Flakes](#)
- [DK Metallics](#)
- [ColorTec 500 \(100% Solids Epoxy\)](#)
- [ColorTec 600WB \(Water Based Epoxy\)](#)

Any other **Dura-Kote specialty system**

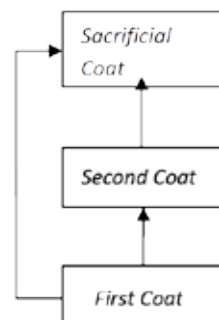
Second Coat

If first coat has cured dry to the touch and is no longer tacky (refer to cure rates listed above as a guide) repeat all steps of application. Planning, masking, mixing and handling, and application are identical in second coat.

If first coat has cured beyond 10 – 14 hr. @ 60°F - 80°F (16°C - 27°C) or if dust or debris has settled into it as it cured, it must be sanded with a rotational floor machine equipped with a 100 grit sanding screen. Follow screening with vacuuming. Follow vacuuming with a micro-fiber wipe with a solvent such as xylene, acetone, or denatured alcohol.

Sacrificial Coat

A sacrificial coat is not required, but will add further protection to the finished product. **SureFinish** provides a protective sacrificial coat, a measure of slip resistance, and is available in gloss and matte, as a simple mop on product.



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 **DK 180** dries; spills and tools can be cleaned up with a solvent such 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. Product is flammable. Avoid sources of ignition. Keep areas ventilated to prevent the accumulation of vapors. **Inhalation:** Use NIOSH approved respirator for organic vapors. **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. If contact occurs, flush eyes with water for 15 minutes, seek medical attention.

PROPERTIES

Appearance (cured)	High gloss sheen
Water Resistance	Excellent, beads water
Mechanical Stability	Excellent
Light Stability	Excellent
Solids	80%
Storage Stability	1 year
Appearance (wet)	Clear
Odor	Aromatic
Application Temperature	32°F – 90°F (0°C - 32°C)
VOC content	<200 g/L
Set to touch	1 - 2 hrs. @ 77°F (25°C)
Pot life	approximately 20 minutes
Gardener direct / reverse impact	>160 inch pounds (>184 kg force cm)
Taber abrasion	40-60 mg loss
Gloss retention	>95% @ 2000 hours

CHEMICAL RESISTANCE

	24 hour	7 days
MEK (methyl ethyl ketone)	no effect	fails
Xylene	no effect	no effect
Tap Water	no effect	no effect
Mineral Spirits	no effect	no effect
100% Ethanol	no effect	no effect
10% acetic acid	no effect	fails
50% sodium hydroxide	no effect	no effect
85% lactic acid	no effect	fails
50% sulfuric acid	no effect	no effect
38% hydrochloric acid	no effect	no effect
28% ammonia	no effect	fails
10% sodium chloride	no effect	no effect

FUELS & FLUIDS

	24 hour	7 days
Gasoline	no effect	no effect
Diesel Fuel	no effect	no effect
Kerosene	no effect	no effect
Brake Fluid	softens	fails
Skydrol	no effect	dulls
Transmission fluid	no effect	no effect

HOUSEHOLD ITEMS

	24 hour	7 days
Coffee	no effect	no effect
Cola	no effect	no effect
Grape juice	no effect	no effect
Ketchup	no effect	no effect
Mustard	transient staining	transient staining
Clorox Bleach 5 – 10%	no effect	no effect

SAFETY DATA SHEETS

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

- [sealers-dura-kote-pfc-180-a-sds.pdf](#)
- [sealers-dura-kote-pfc-180-b-sds.pdf](#)