

## **Acrylic Tennis & Recreational Sport Surfaces**

### **ADVANTAGE Laykold System Specification**

#### **PART 1 – GENERAL**

##### **1.1 DESCRIPTION**

- A. Scope: This guide specification covers the application of the Advantage Laykold system. Advanced Polymer Technology Corporation of Harmony, Pennsylvania, U.S.A provides technical data and guideline specifications only. Consult with a professional engineer or architect for a formal specification. The Advantage Laykold system is designed and used for the protection, beautification and surface pace for a variety of all-weather athletic and recreational surfaces, including tennis courts, basketball courts, playgrounds, handball courts, paddle tennis courts, etc. Laykold products should only be applied to properly prepared concrete or asphalt substrates. The Advantage Laykold system is comprised of Laykold Acrylic Deep Patch, Laykold Acrylic Resurfacer, Advantage Laykold concentrate, Laykold Line Prime and Laykold Textured White Line Paint. When applying the Advantage Laykold system to a concrete substrate Laykold Epoxy VTB Primer ( $\geq 75\%$  RH), or LM Bond-Kote (adhesion promoter), is required.
- B. Court Construction: Refer to the American Sports Builders Association (ASBA) manual Tennis Courts: A Construction & Maintenance Manual for court construction details. This publication may be obtained by calling the ASBA at 443-640-1042 or visiting [www.sportsbuilders.org](http://www.sportsbuilders.org).

##### **1.2 QUALITY ASSURANCE**

- A. All tennis court surfacing materials shall be Laykold as manufactured by Advanced Polymer Technology (APT) of Harmony, PA, an ISO 9001 certified manufacturer. APT may be contacted via telephone 888-266-4221, fax 724-452-1703, or web sites [www.laykold.com](http://www.laykold.com).
- B. All work shall be done in accordance with American Sports Builders Association (ASBA) guidelines.
- C. The contractor shall record the batch number of each product used on the site and maintain it through the warranty period.
- D. The contractor shall provide the inspector, upon request, an estimate of the volume of each product to be used on the site.

##### **1.3 SUBMITTALS**

- A. Submit one set of Advanced Polymer Technology's "Advantage Laykold System Specifications".
- B. Submit system components Technical Data Sheets (TDS) and one Laykold Color Chart.
- C. Submit current Safety Data Sheets.
- D. Submit current ISO Quality Management System Certification certificate.
- E. Submit current ITF surface classification.

## **1.4 WORKING CONDITIONS & LIMITATIONS**

- A. Asphalt substrates shall be allowed to cure a minimum of 14 days and concrete substrates shall be allowed to cure a minimum of 30 days before application of any coatings. If time sensitive and/or high RH level is present, Laykold Epoxy VTB Primer can be applied to 5-day old (minimum) concrete substrates according to coatings manufacturer guidelines.
- B. IF Laykold Epoxy VTB is required, concrete substrate must be shot blasted, hydro blasted, and/or bush mill hammered to a CSP3 profile. **Minimum requirements are a broom finish and acid etching, if using LM Bond-Kote as an adhesion promoter.**
- C. The substrate shall be CLEAN and DRY before coatings are applied. The surface of the substrate shall be inspected and made sure to be free of grease, oil, dust, dirt, and other foreign matter before any coatings are applied.
- D. Water used in all mixtures shall be fresh and potable.
- E. No part of the surfacing system shall be applied during a rainfall, or when rainfall is imminent.
- F. Do not apply coatings to a cold surface. Surface and air temperature must be a minimum of 50°F (10°C) and rising. A minimum temperature of 50°F must be maintained during the entire installation process to include 24-hours before and after the installation.
- G. Shaded areas will be cooler with slower curing times. Special precautions should be taken to ensure all coatings cure sufficiently prior to application of additional coatings.
- H. Do not apply coatings if extremely high humidity prevents drying.
- I. No coatings are to be applied if surface temperatures exceed 130°F (54°C).
- J. All materials shall be delivered to the job site in sealed containers with the manufacturer's label affixed.
- K. Color(s) of acrylic color coating system is to be selected by owner from manufacturer's product color card(s).
- L. If all the above conditions are met, surfacing materials shall have a (2) two-year limited warranty as supplied by the manufacturer.

## **1.5 WARRANTY**

Advanced Polymer Technology Corp. (APT) warrants, subject to limitations, exclusions, terms and conditions contained herein, that the material supplied by APT, and which is covered by this Warranty, will not fail due to defects for two (2) year. APT's maximum responsibility under this Limited Warranty shall be limited to the replacement of material in a quantity not in excess of the quantity of material furnished by APT in connection with the project. No salesman or other employee or agent of APT is authorized to bind APT by any agreement, warranty, promise, or understanding not herein expressed.

This Limited Warranty is made and given in lieu of all other warranties and conditions, expressed or implied, statutory or otherwise, including but not limited to any warranties or conditions of

merchantability, durability and of fitness for a particular purpose. Under no circumstances shall APT be liable or otherwise obligated for indirect, incidental, or consequential damages of any nature or kind whatsoever, including damages arising in contract, tort, product liability or otherwise.

## **PART 2 – PRODUCTS**

### **2.1 ADVANTAGE LAYKOLD SYSTEM MATERIALS**

- A. All components of Advantage Laykold system shall be supplied by Advanced Polymer Technology, an ISO 9001 certified manufacturer. Advantage Laykold system components shall not contain ANY lead, mercury, nor any heavy metals, PCB, or formaldehyde.
- B. Laykold Epoxy VTB Primer (concrete courts only). A two-component, 100% solids, solvent-free epoxy moisture mitigation primer. LM Bond-Kote (adhesion promoter) may be substituted where concrete's relative humidity, hydrostatic pressure, efflorescence, and staining are not a concern.
  - 1. Percent Solids by Weight 98% (minimum)
  - 2. Weight 9.01 lbs./gallon
- C. LM Bond-Kote (concrete substrates only). A one-component PU/Acrylic hybrid emulsion used as a permeable concrete adhesion promoter. LM Bond-Kote is diluted 1 part LM Bond-Kote to 5 parts portable water and mixed until uniform.
  - 1. Percent Solids by weight: 48% (minimum)
  - 2. Weight: 8.9 lbs/gallon
- D. Laykold Acrylic Resurfacer. Acrylic-based emulsion used for smoothing rough pavements. 1 to 2-coats as required. Laykold NuSurf is recommended for use on new asphalt pavements and is an acceptable substitute for Acrylic Resurfacer. Laykold NuSurf is not recommended on concrete substrates.
  - 1. Percent Solids by Weight 52% (minimum)
  - 2. Weight 10.7 lbs./gallon
- E. Advantage Laykold Color. A factory textured, pigmented wear-resistant acrylic emulsion. 2-coats required. No bagged sand is to be added at jobsite.
  - 1. Percent Solids by Weight 72.9% (minimum)
  - 2. Weight 12.52 lbs./gallon
- F. Optional Laykold ColorCoat Concentrate finish batch mixture. Pigmented wear-resistant acrylic emulsion. 1-coat. Laykold Colorflex finish batch mixture is an acceptable substitute. A finish coat will speed up the surface pace of the court.
  - 1. Percent Solids by Weight 49 % (minimum)
  - 2. Weight: 9.47-9.52 lbs/gallon
- G. Laykold Line Prime. Clear drying acrylic emulsion line primer. 1-coat required.
  - 1. Percent Solids by Weight 29%
  - 2. Weight: 8.9 lbs./gallon

- H. Laykold Textured White Line Paint. Factory textured, wear-resistant acrylic emulsion line marking paint. 1-2 coats as required.
  - 1. Percent Solids by Weight 67% (minimum)
  - 2. Weight: 11.4 lbs/gallon

## **PART 3 – EXECUTION**

### **3.1 INSPECTION**

- A. Inspect concrete or asphalt substrate for dryness. Report any discrepancies to general contractor or owner.
- B. Surface of substrate shall be cleaned by general contractor as required.
- C. Surfacing contractor to approve site and surface conditions prior to proceeding with application of any coatings.

### **3.2 PREPARATION**

- A. New Concrete or Existing Concrete Substrates
  - 1. Concrete must be shot blasted, hydro blasted, and/or bush mill hammered to a CSP3 profile if Laykold Epoxy VTB is required. When using LM Bond-Kote as an adhesion promoter, concrete must have a minimum of a medium broom finish and acid etched if using LM-Bond-Kote as an adhesion promoter.
  - 2. The workmanship of other contractors including the sub-base shall be level and compacted. The field dry density shall be a minimum of 95%. The concrete base must have a maximum deviation of 1/4" below a 10-foot straight edge when measured in any random path.
  - 3. New concrete shall be cured for a minimum of 30 days before proceeding.
  - 4. All surfaces shall be checked to ensure a level surface. The surface shall be flooded with water, any area that retains 1/8" of water in depth after 20 minutes should be marked and leveled after the Laykold VTB Primer application. All cracking and construction joints should be filled with the correct sealant. This sealant should be designed for waterproofing or moisture mitigation. If using LM Bond-Kote, depression should be leveled before LM Bond-Kote application.
  - 5. Surface cleaning - All surfaces must be clean, dry, and free from any bond inhibiting contaminants and foreign residue. Pressure wash the surface to remove any residues.
  - 6. The polyethylene vapor barrier application shall be applied by additional contractors. The application of the barrier shall be installed preceding any cables or steel. The vapor barrier shall be applied at a minimum of two (2) 6-mil layers. Once the installation is completed do not allow any traffic (including vehicular) onto the surface.
- B. New Asphalt Substrates
  - 1. The workmanship of other contractors including the sub-base shall be level and compacted. The field dry density shall be a minimum of 95%. The asphalt base must have

a maximum deviation of ¼" below a 10-foot straight edge when measured by any random path.

2. New asphalt shall be allowed to cure for a minimum of 14 days before proceeding.
3. All surfaces shall be checked to ensure a level surface. The surface shall be flooded with water, any area that retains 1/8" of water in depth after 30 minutes should be leveled with the approved product. All cracking should be filled with the correct sealant.
4. Surface cleaning - All surfaces must be clean, dry, and free from any bond inhibiting contaminants and foreign residue. Pressure wash the surface to remove any residues.

#### C. Previously Coated Asphalt Substrates

1. All surfaces shall be checked to ensure a level surface. The surface shall be flooded with water, any area that retains 1/8" of water in depth after 30 minutes should be leveled with the approved product. All cracking should be filled with the correct sealant.
2. Surface cleaning - All surfaces must be clean, dry, and free from any bond inhibiting contaminants and foreign residue. Pressure wash the surface to remove any residues

### 3.3 INSTALLATION

- A. Primer (for concrete substrates only): When installing the Advantage Laykold System over concrete, LM Bond-Kote must be applied as the first layer of the system. If applying a breathable system or RH tests less than 75%, LM Bond-Kote can be applied. LM Bond-Kote is mixed by diluting 1 part LM Bond-Kote with 5 parts portable water and mixing using a low-speed jiffy mixer (400 to 600 rpm) until uniform (3-5 minutes). Spread the mixed primer on the substrate using a 36" 55 durometer squeegee to achieve a total coverage of approximately 0.02 gal/yd<sup>2</sup> (0.09 kg/m<sup>2</sup> – 450ft<sup>2</sup>/gal). Allow to fully dry before proceeding.

If the concrete substrate tests with an RH of 75% or greater or a MVER (Anhydrous Calcium Chloride) or greater than 3 lbs/1000 sqf/24 hours, more cure time is required or Laykold Epoxy VTB Primer can be used. Laykold Epoxy VTB Primer is mixed by premixing the A for 1 minute, then pouring the B component into the A component and mixing using a low-speed jiffy mixer (400 – 600 rpm) for 2 minutes. Do not incorporate air when mixing. Spread Laykold Epoxy VTB Primer on the substrate using a 36" 55 durometer squeegee and high-quality, 18" medium nap roller to achieve a total coverage of 0.12 gal/yd<sup>2</sup> or 75 ft<sup>2</sup>/gal. The working time for Laykold Epoxy VTB Primer is approximately 40-50 minutes once on the ground and is reduced in high temperatures. Allow 8 to 10 hours drying time before proceeding.

**Note: Only use material that naturally flows out of the pail. Do not scrape, bang, or place pail upside down to force additional materials out of the pail.**

- B. Patching: Once the surface has been thoroughly cleaned and is free of all loose material, dirt, or dust, the court shall be flooded and allowed to drain a minimum of 30 minutes and a maximum of 1 hour. Any area that holds water (birdbaths) in a depth greater than 1/16 inch (1.6 mm or the thickness of a nickel) shall be outlined and patched.
1. Surface Leveling: Birdbaths shall be leveled using a Laykold Acrylic Deep Patch court patch binder slurry. Prime area with a 50/50 mixture of Laykold Acrylic Deep Patch and water. Primer shall be brushed into place and allowed to dry prior to patching. Patch mix

shall consist of Laykold Acrylic Deep Patch, 50-mesh sand and Type 1 Portland cement. Mix as per manufacturer directions.

Note: Laykold Poly Primer (Patch Mix) is an acceptable substitute for leveling materials.

2. Crack Filling: Cracks shall be cleaned, primed, and filled using Laykold Acrylic Resurfacer if cracks are 1/16 inch or less. If greater than 1/16 inch, Laykold Acrylic Deep Patch court patch binder slurry should be used to fill cracks. Mix as per manufacturer's directions.

Note: Laykold Crack Filler and QualiCaulk are acceptable substitutes for crack filling materials.

3. All areas that are repaired/leveled/corrected using a court patch binder mixture shall be allowed to fully cure and then ground smooth and level with the substrate by stone or an acceptable mechanical method.
- C. Filler Coat(s): Apply one coat of Laykold Acrylic Resurfacer using a 24", 30" or 36" wide 70 Durometer flexible rubber squeegee. Batch mix shall consist of 55 gallons (260 kg) of Laykold Acrylic Resurfacer, 30 to 40 gallons (115-130 kg) of potable water, and 600 to 900 pounds (270-400 kg) of clean, bagged silica sand (60 to 80 mesh). The application rate shall be 0.05-0.07 gal/yd<sup>2</sup> (0.29-0.40 kg/m<sup>2</sup> - 129-180 ft<sup>2</sup>/gal) of undiluted Laykold Acrylic Resurfacer per coat.

Note: If the asphalt is very porous, an optional 2<sup>nd</sup> application of Laykold Acrylic Resurfacer may be applied. Each coat should be completely dry before applying subsequent coats. Laykold NuSurf is highly recommended for use on new asphalt pavements and/or older pavements that have experienced hairline surface cracking.

- D. Textured Color Coats:

#### **Laykold MS2 – ITF Classification 2**

Apply two coats of Advantage Laykold 60 factory textured color using a 24", 30" or 36" 50 Durometer flexible rubber squeegee. Batch mix shall consist of 30 gallons (170 kg) of Advantage Laykold 60 and 6.5-8.5 gallons (25 to 32 kg) of potable water. The application rate shall be 0.07-0.08 gal/yd<sup>2</sup> (0.47-0.52 kg/m<sup>2</sup> - 110-130 ft<sup>2</sup>/gal) of undiluted Advantage Laykold per coat. Each layer should be completely dry before applying subsequent layers.

#### **Laykold M3 – ITF Classification 3**

Apply two coats of Advantage Laykold factory textured color using a 24", 30" or 36" 50 Durometer flexible rubber squeegee. Batch mix shall consist of 30 gallons (170 kg) of Advantage Laykold 60 and 6.5-8.5 gallons (25 to 32 kg) of potable water. The application rate shall be 0.06-0.07 gal/yd<sup>2</sup> (0.41-0.47 kg/m<sup>2</sup> - 130-150 ft<sup>2</sup>/gal) of undiluted Advantage Laykold per coat. Each layer should be completely dry before applying subsequent layers.

#### **Laykold MF4 – ITF Classification 4**

Apply two coats of Advantage Laykold factory textured color using a 24", 30" or 36" 50 Durometer flexible rubber squeegee. Batch mix shall consist of 30 gallons (170 kg) of Advantage Laykold 60 and 6.5-8.5 gallons (25 to 32 kg) of potable water. The application rate shall be 0.06-0.07 gal/yd<sup>2</sup> (0.41-0.47 kg/m<sup>2</sup> - 130-150 ft<sup>2</sup>/gal) of undiluted Advantage Laykold per coat.

Apply one coat of Laykold ColorCoat Concentrate finish batch mixture using a 24", 30" or 36" 50 Durometer flexible rubber squeegee. Batch mix shall consist of 55 gallons (260 kg) of Laykold ColorCoat Concentrate and 55 gallons (210 kg) of potable water. The application rate shall be 0.03-0.04 gal/yd<sup>2</sup> (0.17-0.23 kg/m<sup>2</sup> - 225-300 ft<sup>2</sup>/gal) of undiluted Laykold ColorCoat Concentrate per coat.

Each coat should be completely dry before applying subsequent coats. Allow topcoat to cure a minimum of 24 hours before applying game lines.

E. Game Lines:

1. Wait a minimum of 24 hours after final color coat before applying line paint.
2. All lines are to be applied by painting between masking tape with a paintbrush or roller according to U.S.T.A. and A.S.B.A. specifications.
3. Prime masked lines with Laykold Line Prime and allow a minimum drying time of 1-hour.
4. Apply 1 to 2 coats as needed of Laykold Textured White Line Paint with a brush or roller.
5. Remove masking tape immediately after lines are dry.
6. Allow lines to dry a minimum of 24 hours before allowing play on court.

F. Remove all excess and waste materials from the area of work. Dispose of empty containers in accordance with federal and local statutes.

### 3.4 **PROTECTION**

- A. Cure Time. No traffic or other trades shall be allowed on the surface for a period of one week following completion to allow for complete and proper cure of the finish.
- B. Other Trades. It is the responsibility of the general contractor to protect the surface from damage by other trades before acceptance by the owner or the owner's authorized agent.
- C. Do not allow surrounding sprinkler systems to spray water on the newly applied court surface for a period of one week after completion.
- D. Do not place any benches, chairs, ball baskets, or any other type of court equipment on the newly applied court surface for a period of one week after completion.
- E. Do not allow black soled shoes, bicycles, rollerblades, etc. on the court surface. Black scuff marks cannot be removed!

*Acrylic, all-weather tennis and athletic surfacing systems are designed and used to visually enhance asphalt and concrete substrates while providing a desired surface texture, surface pace and/or speed of play. Laykold systems and system components may be used to level surface depressions, fill substrate cracking, smooth surface roughness and make other such adjustments to a new or existing surface/substrate. However, acrylic all-weather tennis and athletic surfacing systems are NOT capable of solving the problems and/or forces associated with cracked, deteriorating, or damaged substrates.*