



Acrylic Tennis & Recreational Sport Surfaces

CUSHION PLUS System Specification

Part 1 – General

1.1 DESCRIPTION

- A. Scope: This guide specification covers the construction and installation of the LAYKOLD ColorCoat System. The work to be performed under this specification includes all labor, equipment, materials and supplies necessary for the installation of the tennis courts included in this contract. Advanced Polymer Technology Corporations of Harmony, PA, U.S.A provides technical data and guidelines specifications only. Consult with a professional engineer or architect for a formal inspection. The LAYKOLD Cushion Plus System is a resilient, multi-layered acrylic emulsion and EPDM rubber particles application designed to provide the tennis player with added comfort and a more enjoyable playing experience by reducing shock to the back and lower extremities. This surfacing system should be applied only to properly prepared concrete or asphalt substrates. The LAYKOLD Cushion Plus system is comprised of LAYKOLD Acrylic Deep Patch, LAYKOLD Acrylic Resurfacer, LAYKOLD ColorCoat Concentrate (2-coats texture mix & 1-coat finish mix), LAYKOLD Line Prime and LAYKOLD Textured White Line Paint. When applying the LAYKOLD ColorCoat system to a concrete substrate LAYKOLD epoxy Concrete Primer is required.
- B. Court Construction: Refer to the American Sports Builders Association (ASBA) manual Tennis Courts: A Construction Manual for court construction details. This publication may be obtained by calling the ASBA at 866-501-2722 or visiting www.sportsbuilders.org.

1.2 QUALITY ASSURANCE

- A. Tennis court surfacing materials shall be LAYKOLD as manufactured by Advanced Polymer Technology (APT) of Harmony, PA, an ISO 9001:2000 certified manufacturer.
- B. All work shall be done in accordance with American Sports Builders Association (ASBA) guidelines.

1.3 SUBMITTALS

- A. Submit one set of Advanced Polymer Technology “LAYKOLD Cushion Plus Specifications”.
- B. Submit system components Technical Data Sheets (TDS) and one LAYKOLD Color Chart.

1.4 WORKING CONDITIONS & LIMITATIONS

- A. Asphalt and concrete substrates shall be allowed to cure a minimum of 30 days before any coatings are applied.
- B. The substrate shall be CLEAN & DRY before coatings are applied. The surface of the substrate shall be inspected and made sure to be free of grease, oil, dirt and other foreign matter before any coatings are applied.
- C. Water used in all mixtures should be fresh and potable.

- D. No part of the surfacing system shall be applied during a rainfall, or when rainfall is imminent, and unless the air temperature is at least 50° F (10° C) and rising.
- E. No coatings are to be applied if surface temperatures exceed 130° F (54° C).
- F. All materials shall be delivered to the job site in sealed containers with the manufacturer's label affixed.
- G. Color(s) of acrylic color coating system is to be selected by owner from manufacturer's product color card.
- H. If all the above conditions are met, surfacing materials shall have a one-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 one (1) 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.

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 – PRODCUTS

2.1 LAYKOLD CUSHION PLUS MATERIALS

- A. All components of LAYKOLD Cushion Plus system shall be supplied by Advanced Polymer Technology, an ISO 9001:2000 certified manufacturer. Cushion Plus system components shall not contain ANY lead, mercury, nor any heavy metals, PCB or formaldehyde.
- B. LAYKOLD Epoxy Concrete Primer (concrete courts only). Shall be a two component, 100% solids, solvent free, epoxy primer.
- C. LAYKOLD Acrylic Resurfacer. Acrylic based emulsion used for smoothing rough pavements. Laykold NuSurf may be used as a substitute.
- D. LAYKOLD Cushion Plus Granule. Acrylic emulsion fortified with 0.5 – 1.5mm EPDM rubber granules that add resiliency to a hard court surface. 2 to 4 coats required based on Cushion Plus system specified: 2 coats cushion plus standard, 3 coats Cushion Plus Xtreme and 4 coats Cushion Plus Supreme.
- E. LAYKOLD Cushion Plus Powder. Acrylic emulsion fortified with 0.0 – 0.5mm EPDM rubber powder used to fill, smooth and prepare the Cushion Plus Granule coats for the application of the color coats. 3 coats required.
- F. LAYKOLD ColorCoat Concentrate textured batch mixture. Pigmented wear-resistant acrylic emulsion. 2-coats required. Advantage Laykold factory textured color or Laykold ColorFlex textured bath mixture are acceptable substitutes.

- G. LAYKOLD ColorCoat Concentrate finish batch mixture. Pigmented wear-resistant acrylic emulsion. 1 coat required. Laykold ColorFlex finish batch mixture is an acceptable substitute.
- H. LAYKOLD Line Prime. Clear drying acrylic emulsion line primer. 1-coat required.
- I. LAYKOLD Textured White Line Paint. Factory textured, wear-resistant acrylic emulsion line marking paint. 1-2 coats as required.

Part 3 – EXECUTION

3.1 INSPECTION

- A. Inspect concrete or asphalt substrate for dryness. Report any discrepancies to general contractor.
- B. Substrate shall be broom 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 INSTALLATION

- A. Primer (when surfacing concrete substrates only): LAYKOLD Epoxy Concrete Primer is mixed by pouring the “B” component into the “A” component and mixing using a low speed jiffy mixer (400 to 600 rpm) for 2 minutes. Scrape down the sides of the bucket and mix for an additional minute. Do not incorporate air when mixing. Spread the mixed primer on the substrate using a high-quality, medium nap roller to achieve a total coverage of approximately 0.025 gal/yd² (0.12 kg/m² – 360 ft²/gal). The working time for the Epoxy Primer is approximately 35 minutes and is reduced in high temperatures. Lightly broadcast 40 to 60 mesh silica sand into the wet primer at the rate of 5 pounds per 100 sq. ft. (0.24 kg/m²) to create a rough mixture. Allow 5 to 6 hours drying time before proceeding.
- B. Once the surface has been thoroughly cleaned and is free of all loose material, dirt or dust, the court should 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 of thickness of a nickel) shall be outlined or patched.
 - a. 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 the place and allowed to dry prior to patching. Patch mix shall consist of LAYKOLD Acrylic Deep Patch, 50-mesh sand and Portland Cement. Mix as per manufacturer directions.
 - b. 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.
 - c. 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. Acrylic Resurfacer: 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 of Laykold Acrylic Resurfacer, 30 to 40 gallons (115 to 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 to 0.07 gal/yd² (0.29 – 0.40 kg/m² – 129-180 ft²/gal) of undiluted LAYKOLD Acrylic Resurfacer per coat. NOTE: If the asphalt is very porous, an optional 2nd application of LAYKOLD Acrylic Resurfacer may be applied. Each coat should be completely dry before applying subsequent coats.
- D. Large Base Rubber: Apply 2 to 4 coats of LAYKOLD Cushion-Plus (based on system desired: 2 coats Cushion Plus Standard, 3 coats Cushion Plus Xtreme, 4 coats Cushion Plus Supreme) using a 24", 30" or 36" wide 50 Durometer flexible rubber squeegee or manufacturer approved mechanical spray equipment. Batch mix shall consist of 55 gallons (240 kg) of Cushion Plus Granule and 22-27 gallons (83-90 kg) of potable water. The AVERAGE application rate for the Cushion Plus Granule coats shall equal 0.20 gal/yd² (1.04 kg/m² – 45 ft²/gal) per coat. Allow each coat to dry completely (minimum of 5 hours) before proceeding with the next coat of Cushion Plus or water vapor may become trapped between the cushion layers causing peeling and blisters.
- E. Small Filler Rubber: Apply 3 coats of LAYKOLD Cushion Plus Powder using a 24", 30" or 35" wide 50 Durometer flexible rubber squeegee or manufacturer approved mechanical spray equipment. Batch mix shall consist of 55 gallons (235 kg) of Cushion Plus Powder to 22 gallons (83 kg) of potable water. The AVERAGE application rate for the Cushion Plus Powder coats shall equal 0.12 gal/yd² (0.61 kg/m² – 75 ft²/gal) per coat. Each coat shall be applied perpendicular (90 degrees) to the previous coat. Please note that the first application of Cushion Plus Powder will use the greatest amount of material as it begins to fill the rough texture created by the larger base rubber coats. The 2nd and 3rd applications of the small filler rubber will use less material with each coat for an overall average consumption rate of 0.12 gal/yd² (0.61 kg/m² - 75 ft²/gal) per coat. Allow each coat to dry completely (minimum 5 hours) before proceeding with the next coat of Cushion-Plus or water vapor may become trapped between the cushion layers causing peelings and blisters.
- F. Textured ColorCoats: Apply 2 coats of LAYKOLD ColorCoat Concentrate textured batch mixture using a 24", 30" or 36" 50 Durometer flexible rubber squeegee. Batch mix shall consist of 55 gallons (260 kg) of ColorCoat Concentrate, 25 to 35 gallons (95 – 115 kg) of potable water and 300 to 450 pounds (135-203 kg) of clean, bagged silica sand (70 to 100 mesh). The application rate shall be 0.04 – 0.05 gal/yd² (0.23 – 0.29 kg/m² – 180-225 ft²/gal) of undiluted ColorCoat Concentrate per coat. Each coat should be completely dry before applying subsequent coats.
- G. Finish ColorCoat: Apply one coat of LAYKOLD ColorCoat Concentrate finish batch mixture using a 24", 30" or 36" 50 Durometer flexible squeegee. Batch mix shall consist of 55 gallons (260 kg) of ColorCoat Concentrate and 55 gallons (210 kg) of potable water. The application rate shall be 0.03 – 0.04 gal/yd² (0.17-0.23 kg/m² – 225-300 ft²/gal) of undiluted 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.
- H. Game Lines: Apply 1 to 2 coats as needed of LAYKOLD Textured White Line Paint with a brush or roller.
- a. Wait a minimum of 24 hours after Finish ColorCoat before applying line paint.
 - b. 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.

- c. Prime masked lines with LAYKOLD Line Prime and allow a minimum of 1 hour dry time
 - d. Remove masking tape immediately after lines are dry.
- I. Remove all excess and waste materials from the area of work. Dispose of empty containers in accordance with federal and local statutes.

3.3 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.