

Cushion Plus System Specification



PART 1 – GENERAL

1.1 DESCRIPTION

- A. Scope: This guide specification covers the application of the Laykold Cushion Plus 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 Laykold Cushion Plus system is a resilient, multilayered acrylic emulsion and SBR rubber particles application designed to provide the athlete with added comfort for 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 Cushion Plus Granule (2-4 coats based on specified system), Laykold Cushion Plus Powder (3-coats), Laykold Advantage, Laykold Line Prime and Laykold, and Textured White Line Paint. When applying the Laykold Cushion Plus system to a concrete substrate, an epoxy topside barrier primer ($\geq 75\%$ RH), or LM Bond-Kote (adhesion promoter), is required.
- B. Court Construction: Refer to the ASBA Construction Manual Courts: A Construction & Maintenance Manual for court construction details. This publication may be obtained by visiting www.sportsbuilders.org.

1.2 QUALITY ASSURANCE

- A. All 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 www.advpolytech.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 "Laykold Cushion Plus 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.

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, an epoxy moisture mitigation primer can be applied to 5-day old (minimum) concrete substrates according to manufacturer guidelines.
- B. If an epoxy moisture mitigation primer is required, concrete substrate must be shot blasted, or hydro blasted to a CSP3 profile. **Minimum requirements are a broom finish and acid etching, if using LM Bond-Kote as an adhesion promoter but shot blasting or hydro blasting is preferred.**
- 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 LAYKOLD CUSHION PLUS SYSTEM MATERIALS

- A. All components of Laykold Cushion Plus system shall be supplied by Advanced Polymer Technology, an ISO 9001:2015 certified manufacturer. Laykold Cushion Plus system components shall not contain ANY lead, mercury, nor any heavy metals, PCB, or formaldehyde.

- B. Epoxy Moisture mitigation 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. Laykold Cushion Plus Granule. Acrylic emulsion fortified with 0.5-1.5mm SBR rubber granules that add resiliency to a pickleball surface. 2 to 4 coats required based on Pickleball Pro Plus system specified: Standard System - 2 coats Cushion Plus Granule, Xtreme System - 3 coats Cushion Plus Granule, and Supreme System - 4 coats Cushion Plus Granule.
 - 1. Percent Solids by Weight 47.9% (minimum)
 - 2. Weight 8.34 lbs/gallon

- F. 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.
 - 1. Percent Solids by Weight 39.8% (minimum)



2. Weight 8.34 lbs./gallon

G. Advantage Laykold. 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

H. 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

I. Laykold Line Prime. Clear drying acrylic emulsion line primer. 1-coat required.

1. Percent Solids by Weight 29%
2. Weight: 8.9 lbs./gallon

J. 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, or hydro blasted to a CSP3 profile if an epoxy moisture mitigation primer is required. When using LM Bond-Kote as an adhesion promoter, concrete must have a minimum of a medium broom finish and acid etched (CSP3 Profile preferred) 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 ¼" 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 epoxy moisture mitigation 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 Laykold Cushion Plus 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/yd² (0.09 kg/m² – 450ft²/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 sqft/24 hours, more cure time is required, or an epoxy moisture mitigation can be used. Manufacture’s guidelines should be followed when applying the epoxy mitigation primer.

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. Cushion Plus Granule Rubber: Apply 2 to 4 coats of Laykold Cushion-Plus Granule (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.. Batch mix shall consist of 55 gallons (240 kg) of Cushion Plus Granule and 22-27 gallons (83-90 kg) of potable water. DO NOT ADD SAND to any cushion coats! The AVERAGE application rate for the Cushion Plus Granule coats shall equal .20 gal/yd² (.91 kg/m² - 45 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 peeling and blisters.

D. Cushion Plus Powder Rubber: Apply 3 coats of Laykold Cushion Plus Powder using a 24”, 30” or 36” wide 50 Durometer flexible rubber squeegee. Batch mix shall consist of 55 gallons (235 kg) of Cushion Plus Powder to 22 gallons (83 kg) of potable water. DO NOT ADD SAND to cushion coats! 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 peeling and blisters.

- E. 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/yd² (0.29-0.40 kg/m² - 129-180 ft²/gal) of undiluted Laykold Acrylic Resurfacer per coat.

Note: Cushion Plus system should be sanded smooth with a floor sander and 12-24 grit paper.

- F. Textured Color Coats:

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 and 6.5-8.5 gallons (25 to 32 kg) of potable water. The application rate shall be 0.06-0.07 gal/yd² (0.41-0.47 kg/m² - 130-150 ft²/gal) of undiluted Advantage Laykold per coat.

Optional Finish Coat – Smoother Surface Texture

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/yd² (0.17-0.23 kg/m² - 225-300 ft²/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.

- G. 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 USA Pickleball. and ASBA. 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.

- H. 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 pickleball 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 pickleball systems are NOT capable of solving the problems and/or forces associated with cracked, deteriorating, or damaged substrates.

ADVANCED POLYMER TECHNOLOGY CORPORATION believes the information herein to be true, accurate and reliable. However, recommendations or suggestions are made without guarantee. Since conditions and disposal are beyond our control, ADVANCED POLYMER TECHNOLOGY CORPORATION disclaims any liability incurred in connection with the use of our products and information contained herein; no warranty, express or implied is given nor is freedom from any patent owned by ADVANCED POLYMER TECHNOLOGY CORPORATION or others to be inferred.

Rev 2 WAB 08.07.23