

# Laykold Masters Gel and Gel Plus Systems

## INSTALLATION GUIDE

Advanced Polymer Technology (APT) has prepared this installation guideline to aid in the application of the Laykold surfacing systems. Any references to consumptions are approximate due to variations in site conditions and application techniques. Before starting any work, the applicator should thoroughly review this installation guidelines and all system component technical data sheets.

### System

The Laykold Masters Gel and Gel Plus Surfacing Systems: are hybrid systems consisting of a 2mm and a 4 mm polyurethane gel layer, a 1.0 mm and 1.5 mm polyurethane wear layer, a specialized bond-kote interface layer, an acrylic resurfacing layer, and finished with the high quality Masters Top Coating – resulting in a surface that has great force reduction and yet plays like a hard court.

### MIXING OF MATERIALS

Materials should be mixed at a low speed (400 - 600 rpm) taking care not to introduce air into the product. Mix until material is consistent in color and texture. The mixing ratio for Laykold 1K Acrylic products are listed below. The Laykold 2K PU products are supplied in pre-proportioned units.

<b>Laykold Component</b>	<b>Maximum Dilution Material to Water</b>	<b>System Type</b>
Laykold Basecoat	Per TDS	1K Acrylic
Laykold VTB Primer	None	2K Epoxy
LM PU Primer	None	2K PU
LM Gel	None	2K PU
LM Wearcoat	None	2K PU
LM Bond Coat	None	1K Acrylic
LM Filler	5:1	1K Acrylic
LM Topcoat 60/ LM Topcoat	4:1	1K Acrylic
LM Topcoat Finish	1:1	1K Acrylic

**POT LIFE**

The pot life is set at a temperature of 68°F. Pot life will vary with temperature.

<b>Laykold Component</b>	<b>Pot Life</b>
LM PU Primer	15-20 minutes
Laykold VTB Primer	15-20 minutes
LM Gel	30-40 minutes
LM Wear Coat	15-20 minutes

All other Laykold components are water-based acrylics. Excess material may be resealed and stored in a cool dry environment for future use. Shelf life is approximately 1 year.

**SURFACE PREPARATION**

Prior to application, the existing surface must be thoroughly cleaned, sound, dry, and free of oils and other bond inhibiting contaminants. Spalls, delaminations, potholes, scaling, pop outs, and other defects in the substrate must be addressed and all projections must be leveled prior to the commencement of the surfacing applications.

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 1/8 inch shall be outlined and patched.

Surface Leveling:

- A. Asphalt - Birdbaths shall be leveled using a Laykold Acrylic Deep Patch court patch slurry. Prime area to be patched 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.
- B. Concrete – Birdbaths shall be leveled using LM PU Primer after the Laykold Epoxy VTB Primer has fully cured. LM PU Primer is mixed by premixing Part A” for 1 minute, then pouring the “B” component into the “A” component and mixing using a low speed jiffy mixer (400 to 600 rpm) for 2 minutes. Do not incorporate air when mixing. Split the mixed LM PU Primer equally into 2 clean, dry 5-gallon pails. Add 1 bag (50-lb) of 40-60 mesh clean, dry silica sand and mix until uniform. Once batch is uniformly blended, pour contents into depression and level with a screed. Allow to cure for 4-6 hours before proceeding with additional coatings.

Crack Filling:

- A. Asphalt - 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 slurry shall be used to fill cracks. Refer to the

Laykold Deep Patch technical data sheet for additional mixing details and application instructions for filling various sized cracks. Laykold Crack Filler and Qualicaulk are acceptable substitutions.

- B. Concrete (Crack and Construction Joints) – Crack and construction joints shall be cleaned and filled with a caulking designed for waterproofing or moisture mitigation such as BASF Masterseal NP-1 or Tremco Dymonic 100.

For applications over asphalt or new concrete, the asphalt should be allowed to cure a minimum of 14 days and concrete should be allowed to cure a minimum of 30 days and be free of any residual moisture.

For new and existing concrete substrates, concrete slab shall be profiled to a CSP3 by mechanical methods (shot blasting, hydro blasting, and/or brush mill hammer) and have Laykold VTB Primer applied at 225 sqft/pail. When hydro blasting allow 24 hours for substrate to dry completely.

### **Laykold Basecoat - Only required for New Asphalt or Old Boney Asphalt**

Apply the Laykold Basecoat using a 36" wide 55 Durometer flexible rubber squeegee. Thoroughly mix the Laykold Basecoat per TDS guidelines. The application rate shall be 0.05-07 gal/yd<sup>2</sup> or 120-140 ft<sup>2</sup>/gal of undiluted Laykold Basecoat per coat. Each coat should be completely dry before applying the LM PU Primer.

### **LM PU Primer**

LM PU Primer is mixed by premixing Part A" for 1 minute, then pouring the "B" component into the "A" component and mixing using a low speed jiffy mixer (400 to 600 rpm) for 2 minutes. 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 0.03 gal/yd<sup>2</sup> or 300 ft<sup>2</sup>/gal. Working time for LM PU Primer is approximately 40 – 50 minutes but is reduced in high temperatures. Allow 5 to 7 hours drying time before proceeding to the LM Gel.

### **Laykold VTB Primer – For New and Old Concrete on grade or RH > 75%**

Laykold VTB Primer is mixed by premixing Part A" for 1 minute, then pouring the "B" component into the "A" component and mixing using a low speed jiffy mixer (400 to 600 rpm) for 2 minutes. Do not incorporate air when mixing. Spread the mixed Laykold VTB Primer on the substrate using a 36" wide 55 durometer flexible squeegee and 18" high-quality medium nap rollers to achieve a total coverage of 0.12 gal/yd<sup>2</sup> or 75 ft<sup>2</sup>/gal. Working time for Laykold VTB Primer in pail is 15-20 minutes. Working time for Laykold VTB Primer on ground is 40-60 minutes. Allow 8 to 10 hours drying time before proceeding to the LM Gel.

**NOTE: Laykold highly recommends that Laykold VTB Primer be applied in the afternoon when ambient and substrate temperatures are decreasing to prevent bubbling in the primer.**

### **LM Gel – Base Layer – 2 mm and 4 mm**

- A. 2 mm – The LM Gel is a two-component polyurethane, prepackaged in A and B units. The LM Gel is mixed by premixing “Part A” for 1 minute, then pouring the “B” component into the “A” component and power mixing for 2 minutes. Pour the mixed gel material onto the substrate in an even bead and spread the mixture using a stand-up notched squeegee (24” - 1/2” V-notch squeegee with every other notch removed) to achieve 2 mm in thickness. Continue the application process in a wet-to-wet fashion across the entire substrate for a monolithic layer. Application rate shall be 0.50 gals/yd<sup>2</sup> or 18-19 ft<sup>2</sup>/gal. Allow the gel layer to cure (6-8 hours) before application of the LM Wearcoat.
- B. 4 mm - The LM Gel is a two-component polyurethane, pre-packaged in A and B units. The LM Gel is mixed by premixing “Part A” for 1 minute, then pouring the “B” component into the “A” component and power mixing for 3 minutes. While mixing the material, add 5 kg (11 lb) 0.5-1.5 Black SBR Spray rubber. After mixing for 3 minutes, ensure that the A, B, SBR Rubber blend is uniformly mixed. Pour the mixed gel material onto the substrate in an even bead, and spread the mixture using a CAM Gauge rake (CAM size 5) to achieve 4 mm in thickness. Continue the application process in a wet-to-wet fashion across the entire court area, for a monolithic layer. Application rates shall be 1 gal/yd<sup>2</sup> or 8-9 ft<sup>2</sup>/gal. Allow the gel layer to cure (6-8 hours) before application of the LM Wearcoat.

**NOTE: Laykold highly recommends that LM Gel be applied in the afternoon when ambient and substrate temperatures are decreasing to prevent bubbling in the monolithic cushion layer.**

### **LM Wear Coat – 1.5 mm**

1.5 mm - The LM Wear Coat is a two-component polyurethane, pre-packaged in A and B units. The LM Wearcoat is mixed by premixing “Part A” for 1 minute, then pouring the “B” component into the “A” component and power mixing for 2 minutes. Pour the mixed LM Wearcoat over the gel base layer and spread the mixture using a Midwest Rake Easy Squeegee, 18” 50-60 WFT Mils squeegee to achieve 1.5 mm in thickness. Continue the application process in a wet-to-wet fashion across the entire surface for a monolithic layer. Application rates shall be 0.45 gals/yd<sup>2</sup> or 26-27 ft<sup>2</sup>/gal.

Allow the LM Wearcoat to cure (4-6 hours) before the application of the LM Bond-Kote.

### **LM Bond-Kote**

The LM Bond-Kote is a latex emulsion, ready to use – do not dilute. Pour an even bead of Bond-Kote onto the surface and spread out evenly using a 24”, 30” or 36” 50 Durometer flexible rubber squeegee. Apply in a wet-to-wet fashion across the court. Application rates shall be 0.02 gals/yd<sup>2</sup> or 450-500 ft<sup>2</sup>/gal.

Adequate ventilation is required during the application process, always wear proper personal protective equipment.

Allow LM Bond-Kote to dry (1-2 hours) before the application of the LM Filler.

### **LM Filler Coat – 2 Coats**

The LM Filler Coat is an acrylic latex emulsion. Batch mix shall consist of 5 gallons of LM Filler and 1 gallon of potable water. Thoroughly mix the material until consistent in color and texture. Apply two (2) coats of LM Filler using a 24", 30" or 36" 50 Durometer flexible rubber squeegee at the rate of 0.05-0.07 gal/yd<sup>2</sup>, 130-180 ft<sup>2</sup>/gal, of undiluted Laykold. Each coat shall be completely dry (1-2 hours) before applying the next coat.

After the second coat of LM Filler has cured, sand the entire court area with a standup floor buffer and coarse sanding disc (24 grit) to remove all ridges or imperfections. Completely clean off the sanding fines with a broom and power blower.

### **LM Topcoat – 2-3 Coats**

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

Apply two (2) coats of LM Topcoat 60 using a 24", 30" or 36" 50 Durometer flexible rubber squeegee. Batch mix shall consist of 5 gallons of LM Topcoat 60 and 1.25 gallons 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 LM Topcoat 60 per coat. Each layer should be completely dry before applying subsequent layers.

The second LM Topcoat, is applied lengthwise on the court first with the rubber squeegee, and then followed with a broom/brushing of the coating to achieve an even, consistent application – thus eliminating the squeegee pattern.

Allow the final topcoat (1-2 hours) to completely dry before the application of tape and game lines.

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

Apply two coats of LM Topcoat using a 24", 30" or 36" 50 Durometer flexible rubber squeegee. Batch mix shall consist of 5 gallons of LM Topcoat and 1.25 gallons 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 LM Topcoat per coat. Each layer should be completely dry before applying subsequent layers.

The second LM Topcoat, is applied lengthwise on the court first with the rubber squeegee, and then followed with a broom/brushing of the coating to achieve an even, consistent application – thus eliminating the squeegee pattern.

Allow the final topcoat (1-2 hours) to completely dry before the application of tape and game lines.

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

Apply two coats of LM Topcoat using a 24", 30" or 36" 50 Durometer flexible rubber squeegee. Batch mix shall consist of 5 gallons of LM Topcoat and 1.25 gallons 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 LM Topcoat per coat.

Apply one coat of LM Topcoat Finish using a 24", 30" or 36" 50 Durometer flexible rubber squeegee. Batch mix shall consist of 5 gallons of LM Topcoat Finish and 5 gallons 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 LM Topcoat Finish per coat.

Allow the final topcoat (1-2 hours) to completely dry before the application of tape and game lines.

### **LM Line Paint**

The LM Line Paints are a pigmented, acrylic line paint. Measure out; apply high quality masking tape, paint, and pull tape.

### **COVERAGES**

Actual coverage rates are dependent upon a variety of factors relative to the field application. The installer must assess the conditions prior to ordering material. Allowances must be made for waste in mixing, pouring, and field conditions.

### **LIMITATIONS**

- ⇒ Asphalt 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.
- ⇒ 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.
- ⇒ Concrete substrates must be shot blasted, hydro blasted, and/or bush mill hammered to a CSP3 profile.
- ⇒ Concrete substrates on grade (in ground) or with a relative humidity (RH) > 75% must have Laykold Epoxy VTB Primer applied to prevent moisture issues.
- ⇒ Do not apply over damp or wet substrates.
- ⇒ Do not apply coatings if extremely high humidity prevents drying.
- ⇒ Do not apply to surfaces during the out-gassing of vapor.
- ⇒ Do not apply coatings to a cold substrate. Substrate and air temperature must be at least 50°F (10°C) and rising. A minimum temperature of 50°F (10°C) must be maintained during the entire installation process to include 24-hours before and after the installation.
- ⇒ 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.
- ⇒ Maximum substrate temperature 130°F (54°C).
- ⇒ Maximum moisture content of substrate is 4% or less.
- ⇒ Substrate temperature must be a minimum of 4° above the dew point.
- ⇒ Do not apply during inclement weather or when it is anticipated.
- ⇒ Water used in all mixtures shall be fresh and potable.

*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.*

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