



REFERENCE GUIDE



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SPEEDLINER-1000
MAXIMUM STRENGTH SPRAY LINERS



SPEEDLINER-1000
MAXIMUM STRENGTH SPRAY LINERS

WORLD'S TOUGHEST SPRAY BED LINER

Surface Preparation

ALUMINUM

- Sand with nylon cup brush.
- Degrease with M.E.K. or acetone.
- Spray on Primer 350. Allow 24 hours drying time.
- Spray on Primer 450. Allow 30 minutes drying time.
- Spray on SL-1000™.

OLD URETHANE

- Scuff lightly with nylon cup brush.
- Clean surface with M.E.K. or acetone.
- Spray on Primer 450. Allow 30 minutes drying time.
- Spray on SL-1000™.

POLY-ETHYLENE

- DO NOT APPLY!

STYRENE - fiberglass

- Sand with nylon cup brush.
- Clean surface with M.E.K. or acetone.
- Spray on Primer 450. Allow 30 minutes drying time.
- Spray on SL-1000™.

A.B.S. PLASTIC

- Call Bearcat Industries for instructions, 1-800-821-8820.

CERAMIC TILE - unglazed

- Roll on saline wash. Allow 15 minutes drying time.
- Roll on Primer 450. Allow 45 minutes drying time.
- Spray on SL-1000™.

CERAMIC TILE - glazed

- DO NOT APPLY!

REFERENCE GUIDE

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1 PREPARATION OF PAINTED METAL SURFACE

For other surface preparations, refer to Appendix.

Sanding

Make sure that the metal is properly sanded. This can be achieved by several methods. We have found that a sanding brush or nylon cup brush works best and fastest for most areas. Use a high-speed nylon cup brush (available direct from us) or use #80 grit sandpaper or rougher. **Do not sand to bare metal.** You can also use a braided wire brush on a hand held grinder. For taped edges and tight areas you will find sanding by hand is best. It is not necessary to remove the painted surface entirely, but you do want to make sure the surface is rough enough to enhance adhesion.



Important: Make sure bed is thoroughly scuffed to ensure a solid and lasting bond.

Wipedown

After sanding the surface and blowing it out with an air tool, you must wipe down the metal with Methyl Ethyl Keytone (M.E.K.) or acetone. This serves a dual purpose of cleaning the surface by removing any dust, grease, or wax; and the M.E.K. or acetone will soften the remaining paint to strengthen the bond of **SL-1000™**. It is important to use clean cloth rags (free from any oil or grease) when wiping the truck beds down so that there is no chance of contamination.

Important: We recommend using M.E.K. or acetone over all other prep solvents to wipe down the bed because of its strength and ability to create the strongest bond possible. Always use chemical resistant gloves and a respirator when using M.E.K. or acetone.

Masking

When installing a truck bed liner, it is important to cover the entire vehicle with plastic, paper or tarps to prevent any overspray from getting on the vehicle. Any type of masking tape may be used. Remove tape immediately after spraying to ensure straight lines, waiting too long can cause an uneven or jagged edge.



Masking Tips: For easier masking and unmasking, remove the tailgate and spray separately. Don't forget to mask between the cab and the bed as shown in the video.

11 APPENDIX

Surface Preparation

WOOD

- Surface must be dry.
- Clean surface with M.E.K. or acetone.
- Brush or roll on Primer 450. Allow 45 minutes drying time.
- Spray on **SL-1000™**.

PAINTED METAL SURFACE

- Sand with nylon cup brush.
- Clean surface with M.E.K. or acetone.
- Spray on Primer 450. Allow 30 minutes drying time.
- Spray on **SL-1000™**.

CONCRETE

- Surface must be dry.
- Clean surface with M.E.K. or acetone.
- Brush or roll on Primer 450. Allow 45 minutes drying time.
- Spray on **SL-1000™**.

GALVANIZED STEEL OR BARE METAL

- Sand with nylon cup brush.
- Clean surface with M.E.K. or acetone.
- Spray on Primer 350. Allow 24 hours drying time depending on temp.
- Spray on Primer 450. Allow 30 minutes drying time.
- Spray on **SL-1000™**.

STAINLESS STEEL

- Sand with nylon cup brush.
- Clean surface with M.E.K. or acetone.
- Spray on Primer 350. Allow 24 hours drying time depending on temp.
- Spray on Primer 450. Allow 30 minutes drying time.
- Spray on **SL-1000™**.

NOTE: To ensure Primer 450 is ready to be sprayed with **SL-1000™**, tacky feel should be completely gone. This will ensure proper adhesion.

PROBLEM

CAUSE

REPAIR SOLUTION

FUTURE PREVENTION

Coating still soft next day or several days later.

Too cold.

Allow liner to cure at 65°F or higher.

Heat spray area to cure at 65°F or higher.

Pigment type.

Allow variance in curing time by pigment color.

Red, Dark Green, Blues, and Grays are slower to cure in cold temperatures.

Ratio problem.

Remove SL-1000™ and respray SL-1000™. Contact Bearcat for clarification.

Refer to Section 3-Mixing of SL-1000™, of this Reference Guide.

Hairline cracking.

Too cold while curing.

Clean surface area with M.E.K., reprimer with Primer 450. Allow 30 minutes drying time. Respray a thin coat of SL-1000™ with the 4mm tip on the hopper gun.

Heat spray area to 65°F or higher.

Too much material layered too quickly.

Clean surface area with M.E.K., reprimer with Primer 450. Allow 30 minutes drying time. Respray a thin coat of SL-1000™ with the 4mm tip on the hopper gun.

Spray SL-1000™ in even coats to build thickness.

Cured liner blisters.

Water or other contaminants.

Cut out blisters. Feather down edges with nylon cup brush. Spray area with Primer 450. Allow 30 minutes drying time and spray SL-1000™.

Check air filter and air compressor for moisture.

Primer not dry.

Cut out blisters. Feather down edges with nylon cup brush. Spray area with Primer 450. Allow 30 minutes drying time and spray SL-1000™.

Refer to Section 2-Applying Primer, of this Reference Guide.

Corner or edge of liner lifts up.

Improper sanding and/or no primer.

Resand, wipe with M.E.K., and glue down lifted area with multi-purpose super glue.

Make sure edges are always well sanded and that Primer 450 is applied to all corners and edges.

2 PRIMER/ADHESION PROMOTER

Mixing Primer

When mixing the primer, it is imperative that the A-side and B-side be mixed in equal volume. A 1:1 ratio is the only way the primer will function properly. You may tint the B-side primer slightly by using a few drops of black pigment to help as a visual reference on light colored surfaces. The approximate amount of primer needed for a truck bed is 450 to 500 ml.



Important: If the primer is mixed off-ratio, SL-1000™ will not properly bond.

Applying Primer

Primer 450 can be applied with a cup gun, high volume/low-pressure (HVLP) gun or by hand with a paintbrush. It is important not to “puddle” the primer but to only coat evenly. If Primer 450 runs or sags, smooth out with your finger and let that area dry longer before coating with **SL-1000™**. You can begin applying **SL-1000™** after 30 minutes if temperature is above 70°F. You must wait longer under cooler temperatures.



When all of the tackiness of the primer is gone, it is ready to be sprayed with **SL-1000™**. Do not wait more than 4 hours. After 4 hours you must apply another coat of primer.

Important: It is important that you get an even coat throughout the surface to be coated. Primer 450 is not UV stable and will yellow if exposed to the sun, so be sure to cover all primer with SL-1000™.

Primer 350 is an aggressive etching primer to be used before the Primer 450 on aluminum, galvanized steel, or any other bare metal. Primer 350 can also be applied with a standard high volume/low pressure (HVLP) paint gun or with a paintbrush. Primer 350 is a perfect substitute for any job that calls for self-etching primers. Mix primer 350 at a ratio of 1:1 and apply one wet coat that covers the surface. Let dry for 24 hours depending on temperature (the longer the better).

Note: See Appendix A for primer requirements for all surfaces.

3 MIXING OF SL-1000™

KEVLAR® into A-side

Mix the Kevlar® brand fiber by DuPont™, into the A-side of **SL-1000™** until it is completely mixed into the urethane. It should have a smooth consistency without lumps. You should have a drill with a minimum of 2,500 rpm when mixing Kevlar® fiber into **SL-1000™** otherwise you will not mix properly and lumps will appear while you are spraying. If you have trouble with lumps, a faster drill should solve the problem. While mixing, keep blades of jiffy mixer clean and submerged in the material. For best results, use only 1 bag of Kevlar® fiber per gallon.



Color pigment into B-side

It is best to use colors provided by Industrial Polymers, Inc. Add color into B-can and shake for approximately 10 seconds. Use one tube of color (4 oz.) per mixed gallon of **SL-1000™**. Only put colorant in B-side when you are ready to mix a gallon. For custom colors, PPG colorants are usually best. Use single stage basecoats only, with no additives such as balancers, binders or clear coats.

Important: Do not use more than 4 oz. of color or this will cause the urethane to have a creamy effect and will affect the cure process of the bed liner. Remember: Do not apply colors that are lighter than our stock samples unless you use our top coat system (see page 11).



Mixing SL-1000™

After mixing color into the B-side, pour the B-side into the A-side can. Mix the material using a drill and a jiffy mixer. When using the Kevlar® fiber, mix the gallon of material for 1-1/2 to 2 minutes. When not using Kevlar®, you should mix the material for 45 to 60 seconds. Once mixed, you will have approximately 15-20 minutes to spray the gallon.

Important: DO NOT OVERMIX! This will cause the material to be very liquid and make it difficult to spray on a vertical surface without runs or sags. If the material becomes too thick in the can or the hopper, you need to mix longer. Take a stir stick and agitate material until it becomes more fluid.

PROBLEM

CAUSE

REPAIR SOLUTION

FUTURE PREVENTION

Large areas of inconsistent color on surface.	Pigment has settled at the bottom of B-side.	Within 24 hours of original spray, spray surface area with Top Coat #6 or SL-1000™. After 24 hours of original spray, spray surface area with Primer 450. Allow 30 minutes drying time and then spray with Top Coat #6 or SL-1000™.	Properly mix color into B-side and immediately mix with A-side
Material runs.	Initial coat sprayed is too thick.	Use paint brush to brush out initial coat and respray SL-1000™.	Spray SL-1000™ in even coats to build thickness.
	Material in hopper is too thin.	Use paint brush to brush out initial coat and respray SL-1000™.	Refer to Material does not gel , of this Troubleshooting section.
	Primer is not dry.	Use paint brush to brush out initial coat and respray SL-1000™.	Refer to Section 2-Applying Primer , of this Reference Guide.
Material too coarse.	Air pressure too low.	Within 24 hours of original spray, use 4mm tip and respray SL-1000™. If more than 24 hours of original spray, you will need to reapply Primer 450.	Refer to Section 4-Spraying SL-1000™ , of this Reference Guide and to the spraying demonstration on the SL-1000™ DVD.
	Too far away from surface.	Within 24 hours of original spray, use 4mm tip and respray SL-1000™. If more than 24 hours of original spray, you will need to reapply Primer 450.	Refer to Section 4-Spraying SL-1000™ , of this Reference Guide and to the spraying demonstration on the SL-1000™ DVD.
	Too fast with spray pass.	Within 24 hours of original spray, use 4mm tip and respray SL-1000™. If more than 24 hours of original spray, you will need to reapply Primer 450.	Refer to Section 4-Spraying SL-1000™ , of this Reference Guide and to the spraying demonstration on the SL-1000™ DVD.
When removing tape, material does not pull evenly.	Material is too dry.	Clean edges with cotton fabric and rubbing alcohol.	It is best to remove tape immediately, especially when using Kevlar®.

10 SL-1000™ TROUBLESHOOTING

<u>PROBLEM</u>	<u>CAUSE</u>	<u>REPAIR SOLUTION</u>	<u>FUTURE PREVENTION</u>
Damaged cans due to shipping.	Mishandling during shipping.	Report to Industrial Polymers at the time of delivery. (Report all claims within 30 days.)	N/A
Lid will not come off Part A can.	Excess resin in seam of the lid has hardened.	Use can opener to remove lid or turn over and remove bottom.	Please notify Bearcat if problem persists.
Material does not gel in can.	Material is too cold or too warm.	Slowly bring material to room temperature. Keep in mind that once the material is mixed, you have approximately 15-20 minutes to spray the gallon. You must discard the material if you go beyond this time limit.	Refer to Section 5-Storage, of this Reference Guide.
	Overmixed.	Options are to spray material on the horizontal areas of the surface or discard material.	Refer to Section 3-Mixing SL-1000™, of this Reference Guide.
	Too much pigment.	Options are to spray material on the horizontal areas of the surface or discard material.	Refer to Section 3-Color pigment into B-side, of this Reference Guide.
	Wrong pigment base.	Discard SL-1000™ with wrong pigment base and mix a new gallon with proper pigment base.	Use Speedliner® pigments, PPG® pigments, or other automotive pigments (pure pigment only).
Pigment looks coarse and uneven while mixing.	Wrong pigment base.	Check pigment base. Contact Bearcat for clarification.	Use Speedliner® pigments, PPG® pigments, or other automotive pigments (pure pigment only).
Material has inconsistent color or spots on surface.	Jiffy Mixer is not clean.	Within 24 hours of original spray, spray surface area with Top Coat #6 or SL-1000™. After 24 hours of original spray, spray surface area with Primer 450. Allow 30 minutes drying time and then spray with Top Coat #6 or SL-1000™.	Clean blades on jiffy mixer after each use and refer to Section 3-Color pigment into B-side, of this Reference Guide.

4 SL-1000™ APPLICATION PROCESS

Using the hopper gun

The hopper fits directly onto the pistol with the handle forward, thereby allowing you to spray downward without worrying about spillage. Do not use rubber neck attachment. The knob at the back of the pistol allows you to control product flow by regulating the trigger. At the butt end of the gun there is an elbow joint and an air control valve. These attachments keep the air hose behind and out of the way of the applicator and regulate airflow, respectively.

Three spray tips come with the gun. For most applications you will use the medium tip (6mm). A variety of textures can be achieved with the medium tip. Additionally, the product flows quickly whereby a thick, high-build pass can be applied quickly and efficiently. The medium tip is recommended when spraying **SL-1000™** with Kevlar® brand fiber by DuPont™. Use this tip to apply thick coats to truck beds, trailers and any other job where you need a high-build rubber coating.



The small tip (4mm) should be used when you need a smoother finish or when you are trying to achieve a thinner coat. This tip restricts the product flow and allows you to cover more surface area at a thinner mil thickness. Re-coating other liners and applying vehicle rocker panels are two common applications for the small tip.

NOTE: It will take you longer to spray with the 4mm tip - 10 minutes per gallon with the 4mm tip vs. 5 minutes per gallon with the 6mm tip.

The large tip (8mm) is only recommended when spraying **SL-1000™** with non-skid fillers such as aluminum oxide grit, rubber crumb, or sand. However, be very careful not to spray too heavily with this tip. The product will flow very, very fast. Go easy with the trigger to restrict the flow.

Remember, when the valve is open - the airflow is constant. The trigger only releases product. Control product flow with size of tip and volume control knob at the back of the pistol. Higher air pressure, smaller tip, and less trigger, means more atomization and smoother texture. Spray with an air pressure of 90 to 100 psi at the gun. To attain a rough texture (all else being equal), allow more product flow with less airflow. To attain a smoother texture (all else being equal), allow less product flow with more airflow.

Spraying SL-1000™

To properly assemble the gun, remove one of the two brackets from the rubber boot and attach hopper directly to gun. Attach the hopper with handle facing forward. It is very important to tighten the bracket so the hopper does not separate from gun.



The initial coat should be sprayed wet and smooth. Set your air pressure at 90 - 100 psi at the gun. When spraying **SL-1000™** with Kevlar® brand fiber by DuPont™, a little more pressure is needed. Set pressure at 100 - 110 psi.

Begin application of **SL-1000™** on the front wall near the cab of the truck. Next, with the sides and wheel wells, then moving onto the floor.

On 8-foot long bed trucks, 2 gallons should be used on the front and sidewalls. Spray 3 gallons on floor and tailgate.

On a 6-foot short bed truck, 1-1/2 gallons should be used on the front and side walls and 2-1/2 gallons should be used on the floor and tailgate. Remember on each truck to reserve 1/3 to 1/2 of the last gallon for texturing.

Remove your masking materials soon after you have finished spraying. Any unwanted overspray can be cleaned with isopropyl alcohol, if tended to right away. The more time overspray has to cure, the more difficult it is to remove.

Important: Initial coat must be a wet coat. Spraying too far away on your initial coat may result in pinholes. This will allow moisture onto the metal and could cause rusting and delamination. See video or video transcript for other spray technique tips.

 - FRONT/SIDE WALL AREAS

 - BED/TAILGATE AREA

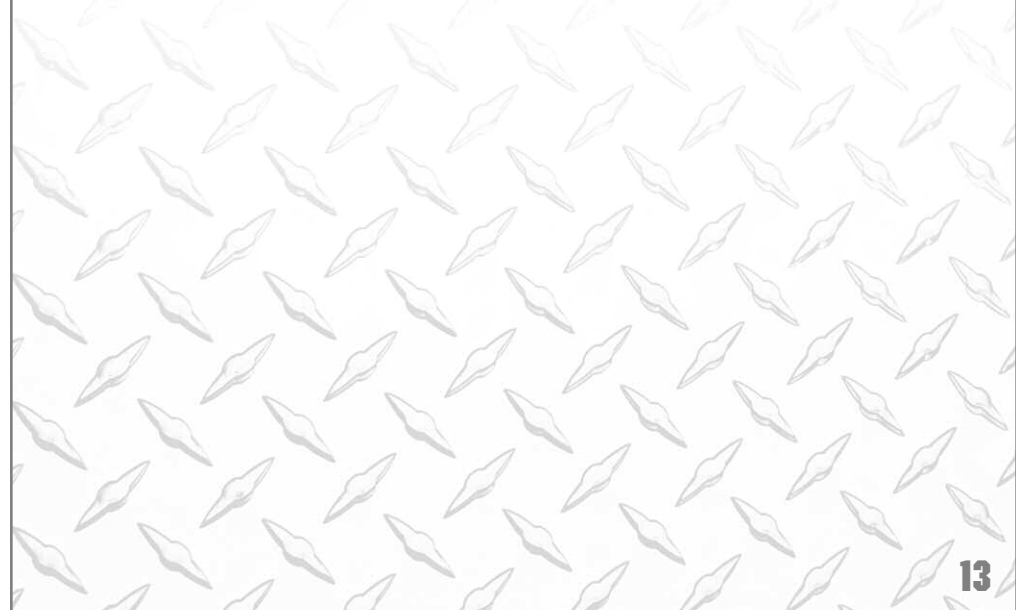


9 SL-1000™ HIGH PROFILE NON-SKID

SL-1000™ can be made into a greatly enhanced non-skid, high profile coating for walk and work areas by simply adding sand, aluminum oxide grit or rubber crumb.

1. Pour all of component A into a plastic 2 to 5 gallon pail.
2. Add one quart of #3 sandblasting sand or one quart of #16 aluminum oxide grit, or rubber crumb. Use sandblasting quality sand as it is absolutely dry. To measure, use a glass measuring cup.
3. Mix for 1 minute with jiffy mixer.
4. Keep stirring and add component B with color to this mixture until it gels - approximately another 30 - 45 seconds.
5. Once material has gelled, stop stirring. The grit will remain evenly suspended in the material.
6. Using the 6mm or 8mm tip, spray using about 80 - 90 pounds of air pressure.
7. Apply non-skid from waist high. The object is to evenly distribute the texture. Applying too heavy will bury the grit, diminishing its non-skid capabilities.

NOTE: Spray first coat smooth to avoid pinholes. Pinholes will allow moisture to penetrate coating and cause rust and delamination.



8 SPEEDBUCKS

SPEEDBUCKS allow you to get our great promotional materials for FREE! Here's how it works:

With each (4) gallon case of **SL-1000™** purchased, you receive two (2) free SPEEDBUCKS. These SPEEDBUCKS can then be used to "purchase" any of our promotional items. These promotional items will then be shipped out in your product order.

If you do not have enough SPEEDBUCKS to get the item you want, apply the bucks you have earned and simply pay the difference. For example, if you purchase 40 gallons (ten cases) of **SL-1000™** you earn 20 SPEEDBUCKS. A large banner, however, costs \$37. Apply your 20 SPEEDBUCKS and you pay only \$17 for the extra banner.

THIS IS A USE IT OR LOSE IT PROGRAM. Therefore, you must tell us when you are placing a materials order on how you would like to utilize your free SPEEDBUCKS. We cannot allow the accrual of SPEEDBUCKS for future use (it would be too expensive for us to accurately track); you must specify your desired promotional goods at the same time as your materials order or you lose your earned SPEEDBUCKS for that order.

SPEEDBUCKS have no cash value and can only be redeemed for listed promotional items. Program is subject to change without notice.

LARGE OR MEDIUM TRUCK BED POSTER

COLOR BROCHURE

LOGO ARTWORK CD ROM FOR ADVERTISING

OUTDOOR BANNER

T-SHIRT OR HAT

DECAL

COLOR RING

MIRROR HANGERS

Curing of SL-1000™

SL-1000™ becomes dry to the touch in about 2 hours. **SL-1000™** will be capable of light use after 24 hours. Full cure takes 3 to 5 days. If the liner is exposed to cold weather (32°F or lower), it may take 7 to 10 days for a full cure, depending on temperature.

For the first 6 hours the truck needs to be in an environment of 70°F or greater. If the bed liner is exposed to cold temperature too soon it may cause hairline cracking. The truck must also be kept out of the rain for the first 4 hours, to avoid blistering.

Warmer temperatures will speed up the curing process. Colder temperatures slow the process down.

Do not use extreme heat (over 110°F) to cure the liner.

For truck beds, the tailgate needs to remain down for the first 24 hours after being sprayed.

5 TECHNICAL DATA

Storage

The **SL-1000™** containers should be kept sealed and stored in a cool, dry area protected from direct sunlight and moisture. Storage temperatures should not exceed 80°F or cold temperatures below 60°F. The shelf life of factory sealed containers stored under these conditions is one year.

The resin portion (A-side) will crystallize when exposed to temperatures below 40°F and the curative portion (B-side) may crystallize when exposed to temperatures below 20°F. This does not harm the components; however, the resin components should be warmed to 90° - 100°F, the curative component to room temperature and each component mixed well before using. The components should not be overheated and should be cooled to room temperature before mixing together. After long-term storage, it is a good idea to stir each component before adding them together.



SL-1000™ components are shipped from the factory in sealed containers purged with dry nitrogen. Containers that have been opened should be resealed immediately after material has been removed in order to prevent moisture contamination and solvent evaporation. Resin component containers must be purged with dry nitrogen if the contents are not used within 24 hours.

Safety

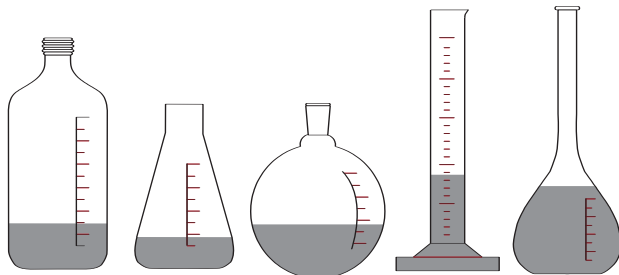
Vapors from **SL-1000™** contain isocyanates and solvents. Forced air ventilation must be used for all indoor applications. When working in tanks and other closed vessels or down stream from the spray gun, fresh air breathing equipment should be worn. Chemical cartridge masks suitable for organic vapors may be used under conditions with adequate ventilation. Protective clothing should be worn at all times. Both resin and curative components contain flammable solvents and should be protected from sparks and open flames.

6 PHYSICAL PROPERTIES

Typical properties of **SL-1000™** cured at ambient temperatures are shown below:

Tensile Strength (ASTM D-412).....	4,700 psi
Tear Strength (ASTM D-624, Die C).....	865 lbs./in.
Elongation (ASTM D-412).....	570%
Hardness, Durometer A.....	92 Shore A
Flammability (FMVSS 302).....	Zero Burn Rate
UV Strength (Weather Testing).....	80 - 89% Gloss Retention after 2,000 Hrs.
PH Range.....	6 to 8 @ 72° F (Higher Temps closer to 7)

SL-1000™ is NOT approved for potable water or FDA regulated applications.



7 TOPCOAT PRODUCTS FROM INDUSTRIAL POLYMERS

Topcoats from Industrial Polymers can further enhance **SL-1000™**'s capabilities. Topcoat #6 and Topcoat #9 provide three principle benefits.



First, they increase chemical resistance. If **SL-1000™** will be exposed to strong chemicals and/or solvents, one of our Topcoat products will enhance its performance.

Second, both Topcoat products enhance gloss. If a **SL-1000™** job requires a super glossy finish, you can use either Topcoat #6 or #9 to add shine.

Finally, the Topcoats have excellent color retention and are perfect for attaining colors that are difficult for **SL-1000™**. Light colors, such as white and silver, can be sprayed if Topcoat over **SL-1000™** is used. Also, automotive colors containing large amounts of pearl and/or metallic flake can be added to Topcoat to reach a beautiful color match for tricky colors. ALWAYS ADD PIGMENT TO TOPCOAT.

Mix a ratio of 1:1 by volume. Topcoat can be thinned with Toluylene up to 20%. For best results, mix 4 oz. of color to 1/2 quart B-side and mix thoroughly. Add 1/2 quart of A-side to B-side with added color and mix with stir stick.

Topcoats are easy to apply using a HVLP paint gun, brush, or roller.

When applying Topcoat to fresh **SL-1000™**, let **SL-1000™** cure for at least 6 hours but no more than 24 hours. Then apply Topcoat - no primer is needed. Older coatings should be lightly sanded, wiped down with M.E.K. or acetone, and primed with Primer 450.

Use Topcoat #6 for most jobs. Topcoat #9 should be used for surfaces with extra flexibility.

NOTE: See Topcoat Tech Data Sheets for more details. Remember to always apply color when using TopCoat #6 or #9. Do not spray clear.