

Solutions for LMM-6000 Paste

LMM-6000 is laser marking material for metals. LMM-6000 is ethanol based which allows for a fast drying time. It can be used on a variety of bare metal substrates including stainless steel, brass, aluminum, titanium, tin, copper, nickel and the like. If the metal has a lacquered coating, the LMM-6000 marking material will not work.

Thinning:

LMM-6000 is formulated thick to prevent settling. It may be necessary to thin the paste before using. Thinning with ethanol, denatured alcohol, acetone or methyl ethyl ketone (MEK) is recommended. Isopropyl rubbing alcohol should be avoided. Application method will determine how much you need to thin LMM-6000. When spraying, a 1:1 mix of LMM-6000 to ethanol, by volume is recommended. MEK and acetone are stronger solvents, so you will need less thinner if using these. When applying with foam brush, a 2:1 ratio to start, 2 parts ethanol to 1 part LMM-6000 by volume is recommended, add more ethanol as needed. Keep in mind that the more the material is thinned, the less active ingredients are being applied. If LMM-6000 is thinned too much, the mark may appear to be lighter in color than what the LMM-6000 could produce.

Applying:

Clean the surface of the metal so it is free of any type of lubricants or oils. Apply a thin coat of LMM-6000 to the metal; try to apply an even coating. LMM-6000 can be applied by a spray gun, air brush, paint brush or a foam brush. If the material is applied too thin, the mark will not be as dark. If the material is applied too thick, it will require more power to make the mark. It is important that LMM-6000 is applied with an even and thin coat. Applying LMM-6000 may require practice to achieve the right coverage. **All CerMark LMM products should be applied in a well-ventilated area or spray booth designed to pull air away from user.**

Drying:

It is important that the LMM-6000 is allowed to dry thoroughly. It can air dry in about 2 minutes. This process can be sped up by using a drying oven, hair dryer or a heat lamp.

Marking On Stainless Steel & Other metals:

This step may require some trial and error to optimize your laser with a particular substrate. Keep in mind that all lasers react differently depending on the substrate, the type of laser, the laser's power, dot size, and other factors:

	25 Watt	35 Watt	50 Watt
Power	100%	100%	100%
Speed	10%	15%	20-30%
DPI/PPI	500/500	500/500	500/500

Marking On Aluminum & Brass:

Softer Metals require more power or slower speeds to obtain a permanent mark. At least a 50 Watt CO2 lasers for such metals is recommended.

	Brass			Aluminum		
	25 Watt	35 Watt	50 Watt	25 Watt	35 Watt	50 Watt
Power	100%	100%	100%	100%	100%	100%
Speed	2%	4%	6%	4%	7%	10%
DPI/PPI	500/500	500/500	500/500	500/500	500/500	500/500

Additional Testing Grid (CO2) similar testing can be adapted for solid state systems as well

- Set laser power output at 100% or 90% is optional for laser systems over 75 watts.
- Then laser test marks at various speed settings one beside the other.
- Scrub test marks with 3M Scotch-Brite / Medium Duty Scrub Pad to verify durability.
- Based on these results choose the best setting for your application.

If you are using a YAG laser, you will need to use about 20-25 Watts of power and a writing speed between 10-20 inches/second. Again, you may need to run several tests to optimize the settings for your particular laser, similar to above Testing Grid.

Clean up:

Wash with water or a wet towel or sponge.

Storage

Recommended Storage at room temperature

