TherMark LMC94
Imitation Etch White for Glass

Recommended use:
LMC94 is recommended for creating white marks on glass substrates which resemble etched or sand blasted marks. LMC94 dries quickly as a white powder-like coat and is extremely easy to wash after laser marking. This coat can be smudged or wiped off prior to marking, however, so LMC94 should be laser marked shortly after application.

Recommended substrates:
LMC94 material can mark a range of glass substrates. It has previously been used to mark many different types of glass in industrial applications such as vehicle windshields, laboratory instruments, plate glass, and glass ampoules. It can also be used for decorative work on bottles, wine glasses and awards.

Glass

Lasers that work:
It is preferable to use LMC94 with a solid state laser. Although LMC94 can work with a CO2 laser, we do not recommend this as the resulting marks may have relatively low contrast compared to marks created using solid state lasers. It may also be necessary to do extensive process development to find suitable settings for your laser.

Dilution:
LMC94 will need to be diluted differently depending on how you plan to apply it.

- **Air brush application:** Ratio of 3:1 (3 parts in volume of LMC94, 1 part in volume of denatured alcohol) is recommended (please refer to your air brush manual for information about material thickness for your model type).

- **Foam brush (hand) application:** No dilution is necessary for foam brush application. However, if the substance is separated from water due to prolonged sedimentation 5 ml of denatured alcohol per 50g of mixture will make the stirring easier.

For more detailed information on dilution, please visit www.thermark.com.

Application methods:
Please make sure that the surface to be marked is free and clear of oils, cleaning agent films, dust, and lacquer coating.

- **Air brush application:** When applying LMC94 from an air brush, the resulting coating should be about 1-1.25 mils thick (~25-30 µm). Spray uniformly at a 10” distance from the surface and move the nozzle from one side to the other covering the whole substrate area. Start spraying away from the area to be marked and move towards the opposite side and past the target area. Over-spraying before and after the target area allows constant velocity of movement and will help provide an even coating on the substrate. Make sure the substrate is not visible underneath. If necessary spray one or two more times.

- **Foam brush (hand) application:** When hand applying LMC94 the resulting coating of LMC94 should be 1.25-1.5 mils thick. Use about a 1" wide foam brush and soak less than ¼" of the brush with LMC94. There is no need to soak more than that, otherwise the ink may splash and result in an uneven coat thickness. Apply with smooth, even strokes.

Note: Air brush application is preferred over foam brush application. It can be challenging to achieve the smooth, even coating of laser marking material necessary for optimal marks when using a foam brush. We only recommend foam brush application if you do not have an air brush or are coating a small surface area.

For more detailed information on application, please visit www.thermark.com.

Drying time & methods:
If left to air dry, LMC94 is normally fully dry within five minutes. If air drying takes too long, however, a hair drier or forced air heater may be used to speed up the process. LMC94 can be fully dried with an average household hair dryer in less than 35 seconds.

Laser settings:
Power and speed are the two most important variables to control when using TherMark laser marking materials with any laser, but there are other relevant variables depending on which laser you are using, such as the focal length of the focusing lens, resolution (DPI), rep rate (PPI, Hz), or hatch spacing (for vectoring mode operation). Please visit www.thermark.com to read more about laser settings and to download an LMC94 laser settings chart.

Product Appearance:
LMC94 is a bright white liquid with a thickness of half &half creamer. It will need to be thinned and stirred prior to use, but will remain white in color after dilution. If sitting for a long time the water and the substance can be separated and the mixture should be stirred vigorously prior the usage. Once applied to the substrate and dry, LMC94 will be a white powder-like coating.

Shipping options:
LMC94 liquid is a non-hazardous, water-based product and can be shipped via ground or air with no additional charges.

Product storage:
All LMC products should be stored between 40ºF (5ºC) and 95ºF (35ºC) in a dark, dry place.

Disposal:
LMC94 is a water-based material and is environmentally safe and non-hazardous. After laser bonding, any excess, un-bonded material can be washed off the substrate and down the drain into your normal water/sewer waste area. Unused containers of liquid ink/paste can be safely disposed of in your regular trash and solid waste area.

Availability:
LMC94 comes in 2 sizes: for price and availability, please contact TherMark.

LMC94.TM.50	50 gm liquid ink, up to 850 sq/in
LMC94.TM.250	250 gm liquid ink, up to 4,250 sq/in

* Product coverage in above table assumes proper application (dilution/coating thickness).