TherMark LMC98
Bright White for Glass & Ceramic

Recommended use:
LMC98 is recommended for creating bright white marks on glass and ceramic substrates. LMC98 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 LMC98 should be laser marked shortly after application.

Recommended substrates:
LMC98 material can mark a range of glass and ceramic 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. Additionally, it has found uses on ceramic products such as porcelain sanitary ware, electronic substrates, and for decorating wall and floor tiles.

Glass
Ceramic

Lasers that work:
LMC98 works well with both CO_2 and solid state lasers. However, solid state lasers generate smoother marks than CO_2 lasers. This is related to the possible microfracturing of the substrate due to direct light absorption at the wavelength of operation of CO_2 lasers.

Dilution:
LMC98 will need to be diluted differently depending on how you plan to apply it.

- **Air brush application:** Ratio of 1:3 (1 part in volume of LMC98, 3 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:** Ratio of 1:2 (1 parts in volume of LMC98, 2 part in volume of denatured alcohol) is recommended.

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 LMC98 from an air brush, the resulting coating should be about 1-1.5 mils thick (~25-35 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. As LMC98 requires a reasonably thick coating, two passes will probably be necessary.

- **Foam brush (hand) application:** When hand applying LMC98 the resulting coating of LMC98 should be 1-1.5 mils thick. Use about a 1" wide foam brush and soak less than ¼" of the brush with LMC98. 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, LMC98 is normally fully dry within three to four minutes. If air drying takes too long, however, a hair drier or forced air heater may be used to speed up the process. LMC98 can be fully dried with an average household hair dryer in less than 20 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 LMC98 laser settings chart.

Product Appearance:
LMC98 is a bright white liquid paste with a thickness of yogurt or sour cream. It will need to be thinned and stirred prior to use, but will remain white in color after dilution. Once applied to the substrate and dry, LMC98 will be a white powder-like coating.

Shipping options:
LMC98 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:
This 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:
LMC98 comes in 2 sizes: for price and availability, please contact TherMark.

LMC98.TM.50	50 gm liquid ink, up to 850 sq/in
LMC98.TM.250	250 gm liquid ink, up to 4250 sq/in

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