

# CerMark™ LMC6044P Black for Glass & Ceramic



## Recommended use:

LMC6044P is recommended for creating black marks on glass and ceramic substrates. It makes darker black marks on these substrates than the older LMC12. LMC6044P dries quickly as a dark grey powder-like coat and is easy to wash after marking. The coat can be smudged or wiped off prior to laser marking, however, so LMC6044P should be marked shortly after application.



## Recommended substrates:

LMC6044P 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:

LMC6044P works well with both CO<sub>2</sub> and solid state lasers. However, solid state lasers generate smoother marks than CO<sub>2</sub> lasers. This is related to the possible microfracturing of the substrate due to direct light absorption at the wavelength of operation of CO<sub>2</sub> lasers.

## Dilution:

In liquid form, LMC6044P will need to be diluted differently depending on how you plan to apply it.

- **Air brush application:** Ratio of 1:1 (1 part in volume of LMC6044P, 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:** Ratio of 2:1 (2 parts in volume of LMC6044P, 1 part in volume of denatured alcohol) is recommended.

For more detailed information on dilution, please visit [www.thermark.com](http://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.

- **Aerosol application:** Shake the aerosol can thoroughly before use to achieve a homogenous suspension of marking material inside the can. When applying LMC6044P.A12 from an aerosol can, the resulting coating of the ink should be about 1.5mil thick (~38µm). Spray uniformly at a 10" distance from the surface and move the nozzle from one side to the other covering the entire 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 results in a constant velocity of movement and helps provide an even coating on the substrate. Make sure that the bare substrate is not visible underneath. If necessary spray one or two more times. In general 2-3 strokes are enough to generate the desired coating.
- **Air brush application:** When applying LMC6044P from an air brush, the resulting coating should be about 1 mil thick (~25 µm). To create an even coating of LMC6044P spray from a distance of about 1' away from the sample. Start away from the sample and pass across it with a constant speed. Stop spraying only after passing the sample by a few inches to provide a homogeneous coating. If necessary spray one or two more times. In general 1-2 strokes are enough to generate the desired coating.
- **Foam brush (hand) application:** When hand applying LMC6044P the resulting coating of LMC6044P should be 1-1.2 mils thick. Use about a 1" wide foam brush and soak less than ¼" of the brush with LMC6044P. 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](http://www.thermark.com).

#### **Drying time & methods:**

If left to air dry, LMC6044P is normally fully dry within 8 to 10 minutes. If air drying takes too long, however, a hair drier, convection oven or forced air heater may be used to speed up the process. LMC6044P can be fully dried with an average household hair dryer in less than 30 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](http://www.thermark.com) to read more about laser settings and to download an LMC6044P laser settings chart.

#### **Product Appearance:**

LMC6044P liquid is a jet black liquid which is thick and dense like children's glue. In liquid form, this product will need to be thinned and stirred prior to use, but will remain jet black in color.

Once applied to the substrate and dry, LMC6044P will be a dark grey powder-like coating.

# CerMark™ LMC6044P

## Black for Glass & Ceramic



### Shipping options:

LMC6044P aerosol is considered by the US Department of Transportation (DOT) to be "ORM-D" or "Consumer Commodity". This product is generally shipped via ground in the contiguous United States. Products shipped via air to Hawaii or to international destinations will be subject to additional hazardous materials charges. This is due to regulations around the shipping of pressurized cans on airplanes. Please contact customer service for further details.

LMC6044P 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 40°F (5°C) and 95°F (35°C) in a dark, dry place.

### Disposal:

LMC6044P 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:

LMC6044P comes in 3 sizes: for price and availability, please contact TherMark.

LMC6044P.A12	12 oz aerosol, up to 1,000 sq. in.
LMC6044P.50	50 gm liquid ink, up to 1,300 sq. in.
LMC6044P.250	250 gm liquid ink, up to 6,500 sq. in.

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