

CerMark™ LMM6046 Black for Raw & Anodized Aluminum



Recommended use:

LMM6046, a CerMark™ product based on LMM6000, is an alternative product for creating black marks on anodized metals and raw aluminum. LMM6046 has been specially designed to create consistent marks on anodized surfaces despite the known variation in the quality of the anodization.

In general, however, TherMark recommends LMM6018.LF tape for marking on anodized aluminum, as it creates a darker and more uniform mark than LMM6046. Similarly, we recommend LMM14 for marking raw aluminum, as it, too, creates a superior mark to LMM6046. As LMM6046's process window is quite narrow and it is a challenging product to use, we only recommend LMM6046 for existing users who do not wish to upgrade to LMM6018.LF or LMM14.



Recommended substrates:

LMM6046 can be used on anodized or raw aluminum. These are the only two substrates on which LMM6046 works.

Anodized Aluminum
Raw Aluminum

Lasers that work:

LMM6046 works well with CO₂ and solid state lasers.

Dilution:

LMM6046 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 LMM6046, 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 LMM6046, 1 part in volume of denatured alcohol) is recommended.

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

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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 LMM6046 from an air brush, the resulting coating should be about 1.25 mil thick (~32 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 bare metal is not visible underneath. If necessary spray one or two more times. In general 1-2 strokes are enough to generate the desired coating. Good marks are produced with this product if the surface is covered with a medium heavy coat of LMM6046, especially on anodized surfaces
- **Foam brush (hand) application:** When hand applying LMM6046 the resulting coating of LMM6046 should be about 1.5 mils thick. Use about a 1" wide foam brush and soak less than ¼" of the brush with LMM6046. 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, LMM6046 is normally fully dry in just over a minute. If air drying takes too long, however, a hair drier or forced air heater may be used to speed up the process. LMM6046 can be fully dried with an average household hair dryer in less than 5 sec.

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 length of lens, PPI, DPI, frequency, or hatch spacing. Please visit www.thermark.com to read more about laser settings and to download an LMM6046 laser settings chart.

Product Appearance:

LMM6046 is a bright yellow liquid with a viscosity of children's glue. It can settle upon standing and should be stirred prior to use.

Once applied to the substrate and dry, LMM6046 will be a bright yellow paint-like coating. It will be resistant to touching or accidental rubbing. However, it is water soluble and any contact with wet objects will smear the coating.

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Shipping options:

All LMM6046 products are considered by the US Department of Transportation (DOT) to be “ORM-D” or “Consumer Commodity”. These products are 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 alcohol-based chemicals on airplanes. Please contact customer service for further details.

Product storage:

All LMM6046 products should be stored between 40°F (5°C) and 95°F (35°C) in a dark, dry place.

Disposal:

LMM6046 is an alcohol-based material. 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 should be opened, the alcohol base evaporated into a well-ventilated area, and once only solids remain in the container, the container with solids can be safely disposed of in your regular trash and solid waste area.

Availability:

LMM6046 comes in 4 sizes: for pricing and availability, please contact TherMark.

LMM6046.50	50gm liquid ink, up to 1,000 sq/in
LMM6046.250	250 gm liquid ink, up to 5,000 sq/in
LMM6046.500	500 gm liquid ink, up to 10,000 sq/in
LMM6046.1000	1,000 gm liquid ink, up to 20,000 sq/in

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