



TECHNICAL INFORMATION LASER MARKING PRODUCT LMM-6046 Anodized Aluminum Marking Material

1.0 Product Description

LMM-6046 is a laser marking material for metals. This material can be used to produce a black mark on anodized aluminum surfaces. LMM-6046 is ethanol based, which allows for a fast drying time. LMM- 6046 will not work on metals with a lacquered coating.

2.0 Product Characteristics

2.1 Physical Properties

Appearance Bright yellow colored liquid, oil like viscosity, miscible with water.

Density 15.5 – 15.7 pounds/gallon

Flash Point <66°F / <18.9°C

Drying Rate Fast

2.2 Strengths of Product

Versatility and ease of application. High quality, high contrast, durable marks on anodized aluminum.

2.3 Recommended Application Parameters

Application Methods Spray gun, airbrush or foam brush.

Application Clean surface of metal so that it is free of any lubricants or oils. LMM-6046 must be applied with an even and thin coat to ensure a consistent mark.

Wet Film Thickness 0.5 – 1.0 wet mils.

Thinner Ethanol, denatured alcohol or grain alcohol.

Isopropyl alcohol or water should be avoided.

Recommended reduction For brushing applications, use LMM-6046 as is.

For spray applications, LMM-6046 can be used as is, or it can be thinned if necessary.

Suggested Cleaning Solvents Wash with water or a wet towel.

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2.4 Curing/Drying of Product

Drying Method Air dry, radiant heat, hair dryer or convection oven.

Drying Parameters Typically air dries in about 2 minutes, can be sped up by force drying.

2.5 Laser Marking of Product

Laser Marking Method CO₂, YAG or Fiber laser

Recommended Starting Point for Settings CO₂: 90-100% power (35 watt laser)
15-30% speed 500 DPI / 500 PPI

YAG: 20-25 watts 10-20 inches/sec speed

2.6 Application Notes

For optimum mark quality, a thin even coat of LMM-6046 should be used. If the material is applied too thin, the marks will not be as dark. If the material is applied too thick, more power will be required to make the mark. Applying LMM-6046 may require practice to achieve the right coverage. It is also important to allow the coating to dry thoroughly.

In most cases, LMM-6046 can be used as is. It may be necessary to thin the paste before using. Application method will determine the amount of thinner required, along with room temperature and humidity. The ratios recommended above should be sufficient. Keep in mind that the more the material is thinned, the less active ingredients are being applied.

Overthinning will result in a lighter mark than properly thinned and applied LMM-6046.

2.7 Marking Notes

Marking 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. You may need to run several tests to optimize the settings for your laser.

3.0 Product Preparation

Insure that the product has been well mixed prior to use. Some settling may occur during long storage. Paste temperature should be equivalent to your printing room temperature prior to measuring viscosity or application.

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4.0 Storage Recommendations

Product must be stored in cool and dry conditions. Storage temperatures should be between 40°F (5°C) and 95°F (35°C). Settling may occur if stored for long periods of time. Before use, products must be stirred thoroughly.

Partly used containers must be tightly sealed after use. If stored as recommended, a minimum shelf life of six months after the production date is guaranteed.

5.0 Contact Information

For questions about properties of this product, application techniques or laser settings, please contact: