

# TECHNICAL INFORMATION LASER MARKING PRODUCTS



**LMC-34 Red Marking Material**  
**LMC-74 Yellow Marking Material**  
**LMC-94 Imitation Etch Marking Material**  
**LMC-98 White Marking Material**

## 1.0 Product Description

The LMC series products are laser marking materials for glass, ceramic, ceramic like and porcelain substrates. The LMC series is water based, which allows for moderate dry time and easy clean up. The products can be used on a variety of glasses and porcelains including automotive glass, spandrel, container glass, ceramic, tile, sanitary ware and the like.

The LMC-34, LMC-74, LMC-94 and the LMC-98 marking materials are formulated for use on YAG or Fiber lasers; *they do not work well on CO<sub>2</sub> laser systems.*

The LMC-34 and LMC-74 marking materials *contain cadmium*, appropriate personal protective equipment and environmental precautions should be employed.

## 2.0 Product Characteristics

| <b>2.1 Physical Properties</b>   |  |
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| <b>Appearance</b>  | Colored paste, with water like consistency.  |
| <b>Density</b>   | 11.0-13.0 pounds/gallon  |
| <b>Flash Point</b>   | Not applicable   |
| <b>Drying Rate</b>   | Moderate   |
| <b>2.2 Strengths of Product</b>  |  |
| Allows YAG and Fiber lasers to mark substrates such as glass and porcelain with color. Produces marks resistant to abrasion and heat; fast drying; water based, organic free for environmentally preferred clean-up. |  |
| <b>2.3 Recommended Application Parameters</b>  |  |
| <b>Application Methods</b>   | Spray gun, airbrush, or aerosol.   |
| <b>Application</b>   | Clean surface of glass so that it is free of any lubricants or oils. The LMC series must be applied with an even coat to ensure a consistent mark and color. |
| <b>Coverage</b>  | 500 grams of an LMC series product will cover approximately 2500 – 3000 square inches.   |
| <b>Wet Film Thickness</b>  | Approximately 3.0 wet mils.  |
| <b>Thinner</b>   | Thin with water as needed.   |
| <b>Recommended reduction</b>   | Use as supplied, thin if necessary.  |
| <b>Suggested Cleaning Solvents</b>   | Wash with water or a wet towel.  |

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| <b>2.4 Curing/Drying of Product</b>            |  |
| <b>Drying Method</b>                           | Air dry, radiant heat, hair dryer or convection oven.                      |
| <b>Drying Parameters</b>                       | Typically air dries in about 5-10 minutes, can be sped up by force drying. |
| <b>2.5 Laser Marking of Product</b>            |  |
| <b>Laser Marking Method</b>                    | YAG or Fiber laser   |
| <b>Recommended Starting Point for Settings</b> | 10-20 watts<br>10-20 inches/sec speed                                      |

### 2.6 Application Notes

For optimum mark quality, an even coat of the LMC product should be applied. 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 and bonding may be incomplete. Applying the LMC series products will require practice to achieve the right coverage. It is also important to allow the coating to dry thoroughly.

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### 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. Best results are obtained when marking at lower powers and slower speeds. High powers tend to damage glass substrates and should be avoided whenever possible. Experimentation should be performed to find settings that produce an acceptable mark without glass damage.

The LMC-34, LMC-74, LMC-94 and the LMC-98 Marking Materials are formulated for use on YAG or Fiber lasers; *they do not work well on CO<sub>2</sub> laser systems.*

### 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 room temperature prior to viscosity measurement or application.

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## **4.0 Storage Recommendations**

Product must be stored in cool and dry conditions. Storage temperature 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**

Questions about properties of this product, application techniques or laser settings should be directed to:

*Dave Smith (724) 250-5503  
Marketing Manager*

*Sean Weir (724) 229-5161  
Research and Development*

To place an order, please contact:

*Wanda McDowell (800) 245-4951, extension 5167  
Customer Service Representative*

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