

## TECHNICAL INFORMATION

# CerMark™

## LASER MARKING PRODUCT



### RD-6044 Black Glass Marking Material

#### 1.0 Product description

RD-6044 is a laser marking materials for glass, ceramic, ceramic like and porcelain substrates. RD-6044 is water based, which allows for a fast drying time and easy clean up. It can be used on a variety of glasses and porcelains including automotive glass, spandrel, container glass, ceramics, tile, and sanitary ware.

#### 2.0 Product characteristics

<b>2.1 Physical Properties</b>	
<b>Appearance</b>	Dark black paste, with water like consistency.
<b>Density</b>	13.4-13.6 pounds/gallon
<b>Flash Point</b>	NA
<b>Drying Rate</b>	Fast
<b>2.2 Strengths of Product</b>	
Raises the contrast of laser marks on glass and ceramic substrates; allows Nd:YAG, diode pumped Nd:YVO <sub>4</sub> and CO <sub>2</sub> lasers to mark substrates such as glass and porcelain with a bronze, black and blue 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, paintbrush, Bird applicator, draw down bar or foam brush.
<b>Application</b>	Clean surface of glass so that it is free of any lubricants or oils. RD-6044 must be applied with an even and thin coat to ensure a consistent mark.
<b>Wet Film Thickness</b>	3.0 – 5.0 wet mils.
<b>Thinner</b>	Thin with water as needed.
<b>Recommended reduction</b>	For spray or brushing applications, use as supplied.
<b>Suggested Cleaning Solvents</b>	Wash up with water or a wet towel.
<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 2 minutes, can be sped up by force drying.
<b>2.5 Laser Marking of Product</b>	
<b>Laser Marking Method</b>	CO <sub>2</sub> or YAG laser
<b>Recommended Starting Point for Settings</b>	CO <sub>2</sub> : 30-50% power (35 watt laser)

	10-25% speed
	500 DPI / 500 PPI
	YAG- 10-20 watts
	10-20 inches/sec speed

## 2.6 Application Notes

For optimum mark quality, a thin even covering of RD-6044 should be used. If the material is applied too thin, the marks won't be as dark. If the material is applied too thick, more power will be required to make the mark. Applying RD-6044 may require a little practice to get the right coverage. It is also important to allow the coating to dry thoroughly.

## 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 done to find settings that produce an acceptable mark without glass damage.

Marking may possibly be done using diode pumped, fiber and other similar types of lasers.

## 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.

## 4.0 Viscosity Test Method

Cerdec product viscosity is measured by a Brookfield™ RVT DVIII Rheometer using a #27 spindle at 100 RPM, 24.0 °C.

## 5.0 Storage Recommendations

Product must be stored in cool and dry conditions. The storage temperatures should not be below 5°C and not exceed 35°C. Settling could 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.



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