

### Suggested Uses:

The Glass series, GL, was developed for a variety of glass; this includes both bottle and flat sheet. This ink has been developed as a one part ink and an additive should not be required for adhesion in most applications. However flame treatment and any of the ADC additives can be utilized to promote adhesion if necessary. For additional suggestions and information, please contact Technical Service.

**It is the responsibility of the end user to pretest all substrates with Norcote® products prior to use in production.**

### Product Features

- One part ink for basic adhesion
- Multiple types of glass
- Quick curing
- Excellent adhesion and scratch resistance

### Printing Recommendations:

All inks should be thoroughly mixed prior to use. Inks are supplied at print ready viscosity for most applications. If adjustment is needed the GL-049 or GL-000 can be used to thin the ink. Do not microwave this product. Note that very high or low temperatures can change the ink's viscosity. This in turn can affect flow properties, print definition and the color opacity of the ink.

### Mesh:

Mesh counts of 305-355 threads per linear inch and higher (120-140 cm<sup>2</sup>) low elongation, monofilament polyester is suggested. Tension should range from 18-25 N/cm<sup>2</sup> on a rigid frame.

### Stencil:

All direct emulsions and thin capillary films (15-25µ before application) compatible with UV inks are acceptable.

### Squeegee:

A sharp 80 shore durometer polyurethane squeegee is preferred. Inks can be printed with durometers ranging from 60-90 as well as dual durometer squeegees.



### Curing Parameters:

Curing speeds depend on several factors including ink film thickness and the energy level of the lamps. The GL series inks are fast curing and will work with one 300 watts/in (120 watts/cm). However, Norcote recommends two 300 watt/in (240 watts/cm) focused medium pressure mercury vapor lamps with millijoules (mJ) and (mW) of:

300 mJ/cm<sup>2</sup> @ 800 + mW/ cm<sup>2</sup> minimum for most colors and clears.

400 mJ/cm<sup>2</sup> @ 1,000 + mW/ cm<sup>2</sup> minimum for opaque colors (blacks, whites, tans, grays, metallics, etc.).

For excellent adhesion results use belt speeds of 60 – 80 feet per minute.

### Adhesion:

The GL series is a nonvisual post-curing system. Although further cross-linking occurs up to 24 hours later, the GL inks should pass a crosshatch tape test, (ASTM #D3359-97), using 3M 600 tape after exiting the curing unit and cooling to room temperature. In-line, direct flame treatment may promote adhesion on certain types of glass.

### Intercoat Adhesion:

GL series inks intercoat adhesion is very good. Although loss of intercoat adhesion is difficult, it should be monitored throughout the production run especially when printing 6 or more passes. Use of additives may adversely affect intercoat adhesion.

## Mixing

All Norcote® GL Series colors are intermixable.

## Metallic Colors:

Most metallic pigments work well with the GL-049 Clear. Ability to cure a suspension is related to pigment load and UV exposure. Select mesh with openings large enough to transfer the metallic pigments of choice; generally a mesh count of 305 threads per inch (120/cm) or lower is required. Metallic pigments will reduce the shelf life of GL Series ink mixtures. RECOMMENDATION: Mix only enough metallic ink for one day.

## Precautions:

Avoid direct contact of ink with skin and clothing. If contact occurs, wash affected area with warm soapy water and dry thoroughly. If eye contact occurs, irrigate the area with water for 15 minutes and consult a physician. For more specific information, refer to the relevant Material Safety Data Sheet.

## Color Range:

Specific colors can be matched at Nor-Cote® against prints, wet ink or PANTONE® numbers.

## Standard Colors:

<b>Radiant Yellow</b>	<b>GL-012 •</b>
<b>Brilliant Yellow</b>	<b>GL-016 •</b>
<b>Permanent Orange</b>	<b>GL-019 •</b>
Cha-Cha Red	GL-021
Red	GL-022
Rhodamine Red	GL-023
Rose	GL-024
Emerald Green	GL-030
Spruce Green	GL-031
Permanent Blue	GL-034
Violet	GL-035
Reflex Blue	GL-037
Primrose Yellow	GL-201
Lightfast Clm Orange	GL-214
Opaque Yellow	GL-2233
Lightfast Yellow	GL-2313
Lightfast Orange	GL-2872



• May not be suitable for lightfast applications and is not recommended for prolonged exposure to direct sunlight.

## Whites, Blacks and Clears:

Mixing White	GL-002
Opaque White	GL-1046
Nano Opaque White	GL-1057
Mixing Black	GL-005
Opaque Black	GL-1019
Jet Black	GL-4100
Mixing Base	GL-000 ♦
Overprint Clear	GL-049

## Fluorescent Colors T Powders:

Aurora Pink (Blue shade)	T-11
Rocket Red	T-13
Fire Orange	T-14
Blaze Orange	T-15
Arc Yellow	T-16
Saturn Yellow	T-17
Signal Green	T-18
Horizon Blue	T-19
Corona Magenta	T-21

## Metallics:

Gold Paste	040	• (See Note)
Silver Paste	042	
Red Gold Paste	044	
Copper Paste	046	
Rich Gold Ink	240	
Silver Ink	242	

040 paste should be stored between 18C-35C to avoid solidification. If this occurs, reliquify the paste by placing it in an area with temperatures of 25C-35C.

## ♦GL-000 Mixing Base

**Caution, this product is very reactive to fluorescent and incandescent light when not mixed into a pigmented ink.**

The ink can set up within 10-15 minutes. Store properly away from light sources. The GL-000 should be added into pigmented ink. This product increases cure and adhesion rates.

## Additives:

Check the Norcote Additives list for the products compatible with this ink series. The list is available on our website at [www.norcote.com](http://www.norcote.com) or call us at 800-488-9180 to receive a copy.



## Storage & Available Warranties

All UV GL series inks should be stored in tightly closed, black polyethylene containers in an area with the temperature not to exceed 90° F (32.2° C). Do not freeze. Do not store ink below 32°F. Avoid direct sunlight and indirect white light. Excess ink from print runs should be stored in separate containers to avoid contamination and is not covered under any warranty. When stored under these conditions, Norcote warrants the Products shall be free from defects in material and manufacture for a period of one (1) year from the date of sale for the GL series standard inks, with no additives, and for a period of one (1) month from the date of sale for any custom color containing Day Glo® JZB or T-Powder. **Norcote will not warrant any custom colors containing metallic pastes or any inks intermixed with competitor products.** Any warranties provided will be limited to the price paid for the actual products used which give rise to the warranty claim.

This Technical Bulletin is intended to be used for informational purposes only, and is in no way intended to create any warranties or other obligations on behalf of Norcote. All warranties, terms and/or conditions for a particular product will be specified on the applicable invoice and are only valid upon the creation of a legally-binding contract.

## Testing

Due to the inability of Norcote to anticipate or control the conditions under which the Products and information relating thereto will be used and/or stored, Norcote cannot guarantee the results obtained from using the Products. Any Suggested Uses are merely representative, and because the final product will depend on a number of specific factors, the end user should pretest all substrates with the Products prior to use in production.

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