Norcote Technical Bulletin



LC Series UV Curable Ink System

Suggested Uses:

The Label-Cote Series is recommended for Tag & Label applications on polyethylene, polypropylene, polyolefin blends, styrene, vinyl, papers, and most polyesters. It is the responsibility of the end user to pretest all substrates with Norcote® products prior to use in production.

Product Features

- Abrasion Resistant
- Excellent Water Resistance
- Superb Intercoat Adhesion
- Opaque
- Quick Curing
- Chemical Resistant
- NVP Free
- High Gloss

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 LC-070 Thinner or LC-049 Overprint Clear can be used to thin the ink. Do not microwave this product.

Mesh:

The LC Series inks print well through rotary screens that deposit 4 to 5 microns of ink film thickness.

Squeegee:

Inks can be printed with durometers ranging from 60-90.

Curing Parameters:

Norcote LC Series inks cure only when exposed to UV light of the proper wavelength. Curing speeds depend on several factors including ink film thickness and the energy level of the lamps. Ink should be cured immediately after printing. LC Series inks are fast curing and work well with one 300 watts/in (120 watts/cm) or two 200 watt/in (80 watts/cm) focused medium pressure mercury vapor lamps with millijoules (mJ) and (mW) of:

200 mJ/cm2 @ 600 + mW/ cm² minimum for most colors and clears

300 mJ/cm2 @ 600 + mW/ cm² minimum for opaque colors (blacks, whites, tans, grays, metallics, etc.)

The LC Series inks will cure up to 125 feet per minute (38 meters per minute) with most focused UV curing units.



Adhesion:

The LC Series is a nonvisual post-curing system. Although further cross-linking occurs up to 24 hours later, the LC Series inks should pass a crosshatch tape test after exiting the curing unit and cooling to room temperature. Maximum chemical and abrasion resistance and adhesion will be attained after 24 hours.

Weatherability:

Weather resistance is subject to conditions of use. Consult the Norcote® Technical Service Department prior to use for information regarding weather resistance and weatherable applications of the LC Series inks.

Screen Cleaning:

Most conventional solvent cleaners work well. Alcohol based solutions must be avoided as they break down the emulsion. Norcote recommends Press Wash 110 (flash point 113° F), 140 (flash point 140° F) or NSW-824 (flash point 150° F). These products are used for cleaning ink off screens during on press color changes or before storing the screen. They work well when removing ink from squeegees, flood bars and other equipment. Contact us for packaging options.

Coverage:

Approximately 2,000 to 2,500 square feet per gallon (189-230 square meters per gallon) depending on printing variables affecting ink film thickness and coverage.

Mixing:

All Norcote® LC Series colors are intermixable to achieve a wide range of colors.

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.

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Metallic Colors:

Most metallic pigments work well with the LC-049 Overprint Clear. The 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 opening of 15 microns is required. Metallic pigments will reduce the shelf life of LC Series ink mixtures. RECOMMENDATION: Mix only enough metallic ink for one day.

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 or call us at 800-488-9180 to receive a copy.

Color Range:

Specific colors can be matched at Norcote® against prints, wet ink or PANTONE® numbers.

Standard Colors:

1000*
2000*
2001
3800 GL3 ◊
1019
012 •
020 •
022
023
024
030
031
034
035
037
049
050
972

- May not be suitable for lightfast applications and is not recommended for prolonged exposure to direct sunlight.
 Packaged in 36 lb. 3 gallon pails.
- * 2 day lead time

Fluorescent Colors/JZB's:

Aurora Pink (Blue shade)	11 B
Aurora Pink (Yellow shade)	11 Y
Rocket Red	13
Fire Orange	14
Blaze Orange	15
Arc Yellow	16

Saturn Yellow 17 Signal Green 18 Horizon Blue 801 Corona Magenta 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.

Storage & Available Warranties

All UV LC 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). 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 LC 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.

*PVC Plastics:

Decoration can aggravate embrittlement properties of PVC plastics which can lead to cracking and failure of the plastic. It is strongly recommended that the end user contact the polymer manufacturer to obtain information on the suitability for decorating with a UV ink as well as recommendations for molding / processing to reduce this potential. As every situation can not be tested for in a laboratory environment, it is the responsibility of the end user to determine the suitability of the products chosen for an end application.

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