



## 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.

### 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.

### 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.

### Curing Equipment:

LC Series inks are fast curing and work well with one focused 300 watts/in (120 watts/cm) or two 200 watt/in (80 watts/cm) medium pressure mercury vapor lamps. 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. Norcote's® NSW-824 Screen Wash is an environmentally friendly cleaner proven effective with UV and other inks. It is available in 1 and 5 gallon containers or 55 gallon drums. Refer to the NSW-824 technical data sheet for additional information. Alcohol based solutions must be avoided as they break down the emulsion.

### 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.



**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.

**Color Range:**

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



**Standard Colors:**

Water Resistant White	1000*
Super Opaque White	2000*
Silicone Free Rotary White	3500
Silicone Free White	3800 GL3 ◊
Opaque Black	1019
Radiant Yellow	012 •
Brilliant Yellow	016
Radiant Orange	020 •
Red	022
Rhodamine Red	023
Rose	024
Magenta	026
Emerald Green	030
Spruce Green	031
Permanent Blue	034
Violet	035
Reflex Blue	037
Overprint Clear	049
Process Blue	050
Tactile Clear	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	19
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.

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**Key Additives**

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Thoroughly mix all additives both prior to and after addition into base inks. Store additives in a tightly sealed container.

**060 Halftone Base:**

A thick clear used in the screenprinting of halftone or 4-color process reproductions. LC-060 may be used to decrease the density of a color in order to match the color key. Additions of 060 will enhance fine line detail or fine copy negative artwork. Additions of 20% or less by weight will correct most variations in color density or print quality.

**065-Flow and Bubble Control:**

Used to control bubbles which may occur in the wet ink film upon screening. This effect is primarily observed during screenprinting on high gloss surfaces, during high-speed printing, or on certain types of vinyl (where plasticizer conditions may exist). Use of 065 will adversely affect intercoat adhesion; monitor intercoat adhesion throughout the production run. Do not exceed additions of 1.5% by weight.

**LC-070 Thinner:**

Enhances transfer of ink through the screen by reducing ink viscosity. Most useful for high-speed printing applications. Excessive amounts of 070 will reduce cure rates and impair surface durability. Do not exceed additions of 10% by weight.

**073 Cure Promoter:**

Improves depth and speed of cure. Most useful for promoting rapid curing of thick ink deposits, particularly when applied to heat sensitive substrates. 073 Cure Promoter will increase surface hardness and may increase gloss if curing conditions and production speeds remain unchanged. Mix inks fresh daily. Use of 073 may affect intercoat adhesion; monitor cure and adhesion throughout the production run. Do not exceed additions of 3% by weight.

**074 Adhesion Promoter:**

Enhances initial adhesion and adhesion of inks after multiple passes of some substrate through the curing unit (e.g. polyester). If intercoat adhesion is impaired by over curing previous prints, the use of 074 in subsequent prints may restore intercoat adhesion. Store in tightly sealed container and mix prior to use. Shelf life of the ink will be reduced by adding 074. Mix inks fresh daily. Stir the ink immediately and thoroughly. Do not exceed additions of 1% by weight.

**078 Polycarbonate Adhesion Modifier:**

The 078 was formulated to enhance adhesion and cure rates. 078 is most useful for accelerating production speeds, particularly when processing heat sensitive substrates that are susceptible to distortion. Do not exceed additions of 5% by weight.

**170 Anti-Stat Gel:**

Prevents static and fuzzy prints. Anti-stat gel should be added to the ink fresh daily. Intercoat adhesion should be monitored throughout the production run. Do not exceed additions of 12% by weight.

Specific technical information is provided merely as reference information. Variations in ink deposit, color selection, curing power and substrate will affect the end results. Therefore, Nor-Cote® recommends thorough testing at the actual printing facility prior to production runs.



## 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. 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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