

### Suggested Uses:

The GN Series is specially formulated to achieve adhesion to fluted polyolefin and polyolefin banner materials; with exterior lightfastness and weatherability in mind. This series has excellent durability while maintaining flexibility. Developed for end use on polyolefin materials, the GN Series provides excellent adhesion on most all Point-Of-Purchase substrates; including but not limited to: polystyrene, coated and uncoated card stock, rigid vinyl, PVC, pressure sensitive vinyl and some coated metals. The GN Series does not contain N-Vinyl-2-Pyrrolidone. (common name NVP). **It is the responsibility of the end user to pretest all substrates with Norcote® products prior to production runs.**

### Product Features

- Versatile Adhesion Properties
- More Opaque Blacks and Whites
- Outstanding Flexibility
- Excellent Weathering
- High Gloss Finish
- Superb Water Resistance in Submersion Testing



### Printing Recommendations:

All inks should be thoroughly mixed prior to use. The GN Series is supplied in a print ready condition. For reduction of ink viscosity, the use of the UVO Universal Thinner, up to 10%, is recommended. **Do not microwave this product.**

### Mesh:

Mesh counts of 355 or higher are recommended for opaque colors where a single (1) lamp system is used. Mesh counts of 305 or higher are recommended for opaque colors, where two (2) lamp systems are used. Mesh counts should be selected based upon the end user's ability to cure the ink deposit.

### Stencil:

Direct or capillary emulsions that are UV compatible, with a dry micron thicknesses between 7-10 $\mu$  are recommended. Thicker stencils can be used based upon the ability to cure the increased ink deposit.

### Squeegee:

Sharp 70-90 durometer polyurethane blade or multi-durometer blades can be used. For optimal ink lay down, a sharp 80 durometer blade is recommended.

### Screen Cleaning:

Use NSW-824 Screen Wash, or other UV compatible screen washes.

### Curing Parameters:

The GN Series inks are fast curing and work well with one 200 watts/in (80 watts/cm) or one 300 watts/in (120 watts/cm) focused medium pressure mercury vapor lamps with millijoules (mJ) and milliwatts (mW) of:

125 mJ/cm<sup>2</sup> @ 600+mW/cm<sup>2</sup> minimum for most colors and clear.

225 mJ/cm<sup>2</sup> @ 600+mW/cm<sup>2</sup> minimum for opaque colors (ie blacks, whites, tans, greys, metallics, etc.).

Adhesion should be a minimum of 95% from curing unit with final adhesion occurring within one hour of initial polymerization. Coarser fabrics can be utilized; however, cure parameters may need to be adjusted for the increased ink film. If a loss of gloss or adhesion due to insufficient cure is noticed, the use of 5-10% of Dyno-Cote Series Mixing Clear will increase light penetration and improve cure. These guidelines are meant to be a starting point only. Curing requirements vary depending on ink film thickness, substrate type, substrate color/background color, curing equipment, reflector type etc. Testing should always be performed under actual production conditions to determine suitability.

### Coverage:

3,200-3,600 square feet per gallon, based on a film deposit of .40 to .60 mil.

### Precautions:

Gloves and / or barrier cream is recommended when handling UV inks. Safety glasses are suggested, particularly for areas where ink may be splashed. If skin contact occurs, wash affected area with soap and water (do not use solvent or thinners).

### Outdoor Use:

Extensive QUV accelerated weathering tests have been conducted on Fluted Polyethylene, Polyethylene Banner and vinyl films printed with the GN Series. The GN Series withstood 1,000 hours of exposure in a QUV chamber, with 4 hour cycle times of UV light and condensation, with minimal to no changes in color or gloss. Accelerated machine weathering results reference standards and can not precisely reproduce actual outdoor performance.

### Substrate Recommendations:

Fluted polyethylene/polypropylene, polyethylene/polypropylene banner materials, polystyrene, coated and uncoated card stock, rigid vinyl, expanded PVC, pressure sensitive vinyl, ABS, polyester PSA films and some coated metals.

## Metallic Colors:

The GN 011 Metallic Mixing Clear is supplied to use for mixing metallic powders and pastes, such as silver and gold. The increased viscosity of the Metallic Mixing Clear helps to ensure a good powder suspension. Recommended mixing ratios are: 8% by weight of Silver and 20% by weight of Gold. For optimum coverage and opacity, 260-305 meshes are recommended. Use GN Series Overprint Clear for extended weatherability and non-tarnishing properties. Introducing metallic materials into an ink will reduce the shelf life of the ink. Actual shelf life is dependent upon individual users conditions. As a general rule, it is recommended that only enough metallic ink is mixed for one days use (approximately 8 hours). Paste should be stored between 65° F-95° F to avoid solidification. If this occurs, reliquify the product by placing in an area with temperatures of 25° C-35° C.

## Process Colors:

GN four color process colors exceed "SWOP" standards. Variation densities may be achieved with the use of the GN Series 450 Halftone Base. For best results, a plain weave mesh and smooth, thin stencil coating is recommended for four color process printing.

## Fluorescent Colors:

Eight shades of fluorescent colors are available upon request. Fluorescent pigments are not light fast beyond 60-90 days even with the use of an overprint clear. For maximum brightness and color stability, 260-305 mesh counts are recommended. Fluorescent colors are not recommended for outdoor use or in direct sunlight.

## Color Range:

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

## Standard Opaque Colors:

GN 123 Medium Yellow  
GN 131 Brilliant Orange  
GN 190 Process Blue  
GN 151 Scarlet Red  
GN 155 Rubine Red  
GN 160 Rhodamine Red  
GN 200 Peacock Blue  
GN 205 Reflex Blue  
GN 210 Ultra Blue  
GN 220 Emerald Green  
GN 485 Warm Red



## Color Matching Guide:

GN 010 Mixing Clear \*  
GN 101 Primrose Yellow  
GN 111 Lemon Yellow  
GN 114 CMG Orange  
GN 121 CMG Red (YS)  
GN 127 CMG Violet  
GN 141 Fire Red  
GN 165 CMG Magenta  
GN 230 CMG Blue

GN 301 Opaque Black \*

GN 311 Opaque White

GN 325 CMG Green

## Whites, Blacks & Clears:

GN 011 Metallic Mixing Clear

GN 012 Overprint Clear

GN 015 Satin Overprint Clear

GN 027 Super Opaque White

GN 030 Shading Black

GN 031 Tinting White \*

GN 305 Jet Black

\* Used in Nor-Cote's Color Matching Guide

## Process Colors:

Process Colors:	Density
GN 410 HT Yellow	1.10
GN 420 HT Magenta	1.75
GN 430 HT Cyan	1.80
GN 440 HT Black	2.00
GN 450 HT Base	N/A

GN-R410 Rigid HT yellow	GN-R420 Rigid HT Magenta
GN-R430 Rigid HT Cyan	GN-R440 Rigid HT Black
GN-R450 Halftone Base	

## Fluorescent Colors:

Chartreuse	Orange	Rocket Red	Green
Orange/Yellow	Orange/Red	Pink	Blue

## Metallics:

040 Gold Paste	042 Silver Paste
044 Red Gold Paste	046 Copper Paste
240 Rich Gold Ink	242 Silver Ink

## Storage & Available Warranties

All UV GN 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 GN 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. 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.