



UV Curable Ink System

Suggested Uses:

The XL6 Series is a UV curable ink system specifically formulated for pressure sensitive decal applications requiring exterior exposure up to five years. XL6 Series inks have been formulated with a high performance acrylated urethane which provides excellent flexibility and will not edge curl due to ink film shrinkage. This system also has been formulated with excellent adhesion properties for superior performance on pressure sensitive vinyl's and print-treated polyesters. The XL6 Series has been formulated with the use of automotive grade pigments producing excellent opacity and a light fast ink film. (This product contains no NVP).



Product Features

- * Recommended for 3-5 years exterior exposure
- * Excellent opacity and high gloss
- * Low shrinkage properties
- * Excellent solvent and abrasion resistance

Mesh:

355 or higher mesh counts are recommended for opaque colors where a single (1) lamp system is used. 305 or higher mesh counts 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 μ is 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.

Coverage:

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

Thinner:

The XL6 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.

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).

Packaging:

Available in one (1) gallon and five (5) gallon containers. Smaller or larger quantities are available upon request.

Cure & Adhesion:

XL6 Series will cure with one 200 watt per inch lamp at belt speeds between 40-50 feet per minute using 355-420 monofilament polyester mesh. A minimum of 125 mj is required for complete cure. 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 XL6 Series Mixing Clear will increase light penetration and improve cure.

Recommended Substrates:

Pressure sensitive vinyl, some metals and print treated polyester materials used in the decal market. The XL6 is **not recommended** for vinyl materials that contain a high degree of plasticizer. Five year durability is contingent on substrate with compatible exposure duration. To determine suitability of the product for the intended use, a pretest prior to production is advised.



Outdoor Use:

Extensive accelerated weathering tests have been completed on decals printed with the XL6 Series. XL6 Series withstood 2500 hours of exposure with 4 hour cycle times of UV light and condensation at elevated temperatures with minimal color change and no shrinkage. Accelerated machine weathering are reference standards and can't precisely reproduce actual outdoor performance. Based on prior correlations of accelerated testing versus real time Florida exposure, 500 hours is equal to approximately one year, 45 degrees south Florida. The use of premium grade, long-term vinyl films is recommended for all applications intended to weather more than two years. Refer to Product Warranty Guide for complete warranty specifications.

Pre Masking:

The XL6 Series is suitable for pre-masking. The use of a medium to high tack adhesive is recommended for good adhesion to the ink film.

Clean Up:

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

Metallics:

The XL6 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, 20% by weight of Gold. For optimum coverage and opacity, 260-305 meshes are recommended. Use XL6 Series Overprint Clear for extended weatherability and non-tarnishing properties.

Color Range:

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



Standard Colors:

XL6 123	Medium Yellow
XL6 131	Brilliant Orange
XL6 151	Scarlet Red
XL6 155	Rubine Red
XL6 160	Rhodamine Red
XL6 190	Process Blue
XL6 200	Peacock Blue
XL6 205	Reflex Blue
XL6 210	Ultra Blue
XL6 220	Emerald Green
XL6 485	Warm Red

Color Matching Guide:

XL6 101	Primrose Yellow
XL6 111	Lemon Yellow
XL6 064	CMG Yellow (GS)
XL6 066	CMG Yellow (RS)
XL6 114	CMG Orange
XL6 121	CMG Red (YS)
XL6 127	CMG Violet
XL6 141	Fire Red
XL6 165	CMG Magenta
XL6 230	CMG Blue
XL6 325	CMG Green

Whites, Blacks and Clears:

*XL6 010	Mixing Clear
XL6 011	Metallic Mixing Clear
XL6 012	Overprint Clear
XL6 015	Satin Overprint Clear
XL6 026	Barrier White
XL6 030	Shading Black
*XL6 031	Tinting White
*XL6 301	Opaque Black
XL6 311	Opaque White
XL6 312	Dense Black

* Used in Nor-Cote's Color Matching Guide

Process Colors:

XL6 four color process colors exceed "SWOP" standards. Variation densities may be achieved with the use of the XL6 Series 450 Halftone Base. For best results, a plain weave mesh and smooth, thin stencil coating is recommended for four color process printing.

Product Identification		Density
XL6 410	HT Yellow	1.10
XL6 420	HT Magenta	1.75
XL6 430	HT Cyan	1.80
XL6 440	HT Black	2.00
XL6 450	HT Base	N/A

Process Colors:**Product Identification Density**

XL6 510	HD HT Yellow	1.20
XL6 520	HD HT Magenta	2.20
XL6 530	HD HT Cyan	2.10
XL6 540	HD HT Black	2.10

Fluorescent Colors:

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, 230-260 mesh count is recommended.

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

Metallics:

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.

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 XL6 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 XL6 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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