



## Product Features

- \* NVP/Amine Free
- \* Excellent Rheology
- \* Very Opaque
- \* High Gloss
- \* Fast Curing
- \* Abrasion Resistant
- \* Good Intercoat Adhesion

## Printing Recommendations:

All inks are supplied at print-ready viscosity, but should be thoroughly mixed prior to each use. If adjustment is needed the UVOTH Thinner can be used to thin the ink.

## Mesh:

Mesh counts of 305-460 threads per linear inch (120-180 cm<sup>2</sup>) low elongation, monofilament polyester is suggested. Tension should range from 20-25 N/cm<sup>2</sup> on a rigid frame.

## Stencil:

All direct emulsions and thin capillary films (15-25 μ 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 70-90 as well as dual durometer squeegees.

## 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.

## Suggested Uses:

The DM Series is formulated for compact and optical disc applications.

## UV Curable Ink System



## Coverage:

Ink coverage is approximately 20,000-25,000 discs per U.S. gallon using a 390 tpi (150/cm.) plain weave mesh with a 34 micron thread diameter.

## Curing Parameters:

Norcote® DM 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:

DM Series inks are fast curing and work well with one focused 300 watt/in (120 watts/cm) medium pressure mercury vapor lamp. The DM Series inks will cure up to 90 discs per minute with most focused UV curing units.

## Adhesion:

The DM Series is a nonvisual post-curing system. Although further cross-linking occurs up to 24 hours later, the DM Series inks should pass a crosshatch tape test, (ASTM #D3359-97), after exiting the curing unit and cooling to room temperature.

## Intercoat Adhesion:

DM Series inks intercoat adhesion is excellent. NOTE: Intercoat adhesion 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® DM colors are intermixable. The addition of any other ink series will alter the physical and chemical characteristics of the DM Series ink

## 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 solvents or thinners.



**Weatherability:**

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

**Metallic Colors:**

Most metallic pigments work well with the DM-055 Thick 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 count of 305 threads per inch (120/cm) or lower is required. Metallic pigments will reduce the shelf life of DM 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:**

Radiant Yellow	012 •
Brilliant Yellow	016
Permanent Orange	019 •
Radiant Orange	020 •
Red	022
Rhodamine Red	023
Rose	024
Emerald Green	030
Spruce Green	031
Permanent Blue	034
Violet	035
Thick Clear	055
Opaque Black	1019
Opaque White	1046
High Speed White	1056
HV High Speed White	1066
Universal Thinner	UVOTH



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

**Process Colors:**

Halftone Base	DM-060
Halftone Process Cyan	DM-080
Halftone Process Magenta	DM-081
Halftone Process Yellow	DM-082
Halftone Process Black	DM-083

**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.

**065-Flow and Bubble Control:**

Controls bubbles which may occur in the wet ink film upon screenprinting. This effect is primarily observed during high-speed printing. Use of 065 will adversely affect intercoat adhesion; monitor intercoat adhesion throughout the production run. Do not exceed additions of 1.5% by weight.

**UVOTH Universal Thinner:**

Enhances transfer of ink through the screen by reducing ink viscosity. Most useful for high-speed printing applications. Excessive amounts of UVOTH 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. 073 will increase surface hardness and may increase gloss if curing conditions and production speeds remain unchanged. Use of 073 may reduce shelf life of the DM Series inks. Mix inks fresh daily. 073 may affect intercoat adhesion; monitor adhesion throughout the production run. Do not exceed additions of 3% by weight.

**100 Thickening Agent:**

Thickens the ink, yet the powder will not dramatically affect gloss. Monitor cure and adhesion of the DM Series inks when using. Increased ink film thickness may result when printing more viscous inks. 100 Powder will adversely affect weatherability. Do not exceed additions of 2% 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.

**300 Matting Powder:**

This powder will increase the matte effect and viscosity of the DM Series inks. Monitor cure and adhesion. Increased ink film thickness may result when printing more viscous inks. Additions above 5% will impair surface durability. Do not exceed additions of 10% by weight.



## Storage & Available Warranties

All UV DM 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 DM 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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506 Lafayette Avenue  
Crawfordsville, IN 47933  
Toll Free: 800-488-9180 / Ph: 765-362-9180  
Fax: 765-364-5408  
email: support@norcote.com  
www.norcote.com

Nor-Cote® Int'l Limited  
+44-2380-270-542  
email: info@nor-cote.co.uk

Nor-Cote® International Pte Ltd  
+65-6291-0898  
email: norcote@pacific.net.sg

Norcote Internacionales  
de Mexico S.A. de C.V.  
+52-818 394 8299  
email: info@norcotemx.com