



Suggested Uses:

The MSK Series is recommended for second surface decoration of polycarbonate and many polyesters (print-treated and top-coated) for use as membrane switch overlays, nameplates and other select applications, especially when adhesives are to be applied. (*Note pg. 4) **It is the responsibility of the end user to pretest all substrates with Norcote® products prior to use in production.**

Product Features

- Extremely Flexible
- Embossable
- Excellent Adhesion
- Very Opaque
- Outstanding Print Definition
- Good Intercoat Adhesion

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

Mesh:

A mesh count of 355-390 threads per linear inch (140-150 cm²) low elongation, monofilament polyester is suggested. Tension should range from 18-25 N/cm² on a rigid frame.

Stencil:

All direct emulsions and thin capillary films (15-25µ 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 60-90 as well as dual durometer squeegees.

Curing Parameters:

The MSK Series clears are fast curing and work well with one 300 watts/in (120 watts/cm) or two 200 watts/in (80 watts/cm) focused medium pressure mercury vapor lamps with millijoules (mJ) and milliwatts (mW) of:
200 mJ/cm² @ 600+mW/cm² min. for most colors and clears
300 mJ/cm² @ 600+mW/cm² minimum for opaque colors (ie blacks, whites, tans, greys, metallics, etc).



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 system, reflector type etc. Testing should always be performed under actual production conditions to determine suitability.

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 2,200 square feet per gallon (200 square meters per gallon) depending on printing variables affecting ink film thickness and coverage.

Mixing:

All Norcote® MSK Series colors are intermixable. Addition of any other ink series will impair MSK Series flexibility and may impair long term adhesion.

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.

Adhesion:

The MSK Series is a nonvisual post-curing system. Although further cross-linking occurs up to 24 hours later, the MSK Series inks should pass a crosshatch tape test, (ASTM #D3359-97), using 3-M 600 tape after exiting the curing unit and cooling to room temperature. Pressure sensitive adhesives should be applied after a 24 hour post-cure for best results.

Intercoat Adhesion:

MSK Series inks intercoat adhesion is exceptional. Although loss of intercoat adhesion is difficult, it should be monitored throughout the production run especially when printing 8 or more passes.

Weatherability:

MSK Series inks are **NOT** weatherable.

Die-Cutting/Embossing:

MSK Series inks are very flexible, providing excellent results under most embossing or die-cutting conditions. To obtain acceptable results, inks must pass a cross-hatch tape test before embossing. Inks with special effects pigments may not emboss easily. High stress embossing of metallic ink is not recommended.

Metallic Colors:

Most metallic pigments and dark colors work well with the MSK-000 Mixing Clear. 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 MSK Series ink mixtures. RECOMMENDATION: Mix only enough metallic ink for one day.

Process Colors:

MSK Series Halftone Process inks were designed for 4-color process printing. Color density can be adjusted with the addition of process toners or 060 Halftone Base. To achieve a minimum ink deposit, thus reducing pile height and dot gain, use a minimum stencil thickness.

038 Silver Powder:

038P is a coated powder that is meant to line up the silver particles at the bottom of a printed and cured ink film. It is for second surface applications only. The 038 requires gentle mixing. It is best mixed by hand. Avoid dispersion using (toothed) mixing blades on mixers. It should be mixed with MSK-000 Mixing Clear not to exceed 15% by weight. Thoroughly mix the powder into the Clear. Ability to cure a suspension is related to pigment load and UV exposure. Use mesh counts of 305 tpi (120/cm) or lower when printing a metallic mixture. Adhesion and inter-coat adhesion to the substrate should be monitored throughout the production run. Higher percentages of metallic pastes can decrease adhesion and intercoat adhesion properties. Mix ink fresh daily. Keep the container away from direct and indirect light and heat. The lid should always be tightly secured.

Color Range:

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

Standard Colors:

Mixing Clear	000
Overprint Clear	049
Ultimate Clear	249
NY (non-yellowing) Super Clear	259
Lens Clear	1085
Improved Lens Clear	2085
Mixing White	002
Opaque White	1046
Non-Chalking White	1054
Non-Chalking Opaque White	1056
Non-Yellowing White	1059
Hi Speed Opaque White	1066
Signature Panel White	1183
H.V. Opaque White	1593
Mixing Black	005
Opaque Black	1019
Midnight Black	1020
Deadfront Black	1022
Super Dense Black	2500
Super Dense Black	4000
Jet Black	4100
Brown	007
Radiant Yellow	012 •
Lightfast Yellow (Green shade)	015
Medium Yellow	017
Permanent Orange	019 •
Radiant Orange	020 •
Opaque Yellow	2233
Lightfast Yellow	2313
Lightfast Orange	2872
Cha Cha Red (Special Order)	021
Red	022
Rhodamine Red	023
Rose	024
Magenta	026
Emerald Green	030
Spruce Green	031
Permanent Blue	034
High Density Permanent Blue	434
Opaque Process Blue	2021
Violet	035
Reflex Blue	037
Peacock Blue	038
Process Blue	050
HF Green	330*
HF Violet	335*



* Halogen free per the International Electrotechnical Commission standard IEC 61249-2-21.

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

Process Colors:

Halftone Base	060	
Halftone Process Cyan	080	
Halftone Process Magenta	081	
Halftone Process Yellow	082	
Halftone Process Black	083	
Process Cyan Toner	880	Qts.
Process Magenta Toner	881	"
Process Yellow Toner	882	"
Process Black Toner	883	"
HD Process Cyan	9001	
HD Process Magenta	9002	
HD Process Yellow	9003	
HD Process Black	9004	

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	802
Horizon Blue	801
Pantone Yellow	803
Corona Magenta	21

Transparents:

Transparent Red	092	Qts. Only
Transparent Green	093	
Transparent Blue	094	
Transparent Yellow	095	
Transparent Green	193	
Transparent Blue	194	
Transparent Yellow	195 •	
Transparent Orange	196 •	
Deadfront Black	1122	
Lt. LED Red	1186	
Lt. LED Red	2286	
Dk. LED Red	1187	
Dk. LED Red	2287	

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Special:

ODMSK-2586-A2 Lightblock Ink
A mesh count of 305.33 PW is recommended. The ODMSK-2586-A2 works well with two 300 watts/in (120 watts/cm) focused medium pressure mercury vapor lamps.

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.

Metallics:

Silver Powder	038	
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.

Textured Clears:

Matting Clear	MSK-CL2
Low Texture Satin Finish	MSK-CL6

Textured Clears have a 2 day lead time.

Note: Textured Clears have a shelf life of 1 year from the date of manufacture when stored under the proper conditions. Refer to storage and shelf life on page 1.

Storage & Available Warranties

All UV MSK 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 freezing. Do not store ink below 32° F. 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 MSK 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.