

5000 Series

PRODUCT INFORMATION

The 5000 Ink Series has been specifically formulated to adhere to a wide range of substrates offering rich, gloss colors.

APPLICATION FIELD

End uses include fine art serigraphs, nameplates, skate boards, posters, aircraft interiors, and point of purchase displays.

APPLICATION PROCESS

Substrates	Treated Coroplast™ / Fluted Polyolefin**, Pressure Sensitive Vinyl, Treated Polyethylene, Polystyrene (Styrene), Treated Polyester (Substrate not Fabric), Polycarbonate, Coated Wood, Card Stock, Tyvek®, Tedlar®, PVC, ABS
Th/cm	From 200 to 380 (80 to 150 cm), monofilament polyester is recommended.
Emulsion	Solvent and water-proof emulsion only. Dual cure emulsions are recommended for added durability. Emulsion stencil must be thoroughly dried before image exposure. Use a water-proof block-out or emulsion for small touch-up areas.
Squeegee	Sharp 70 to 85 single or multi-durometer polyurethane blade
Ink Yield and Coverage	Colors should achieve a yield of 1,400 to 2,000 square feet per gallon (33 to 47 square meters per liter) depending upon on substrate selection, squeegee hardness, substrate absorption and press mechanics.

Drying	The 5000 Series will air dry in 20 to 30 minutes at normal room temperature. Force drying in seconds at 150° F (66° C). Material blocking may occur if sheets are stacked when still hot. Good air flow is important.
Cleaning	Wash up on press with a press wash and reclaim with degradents specifically developed for water based inks.
Storage	Store at room temperature, below 100° F (38° C). Always avoid open flames and excessive heat exposure. Protect from freezing.
Packaging	Available in quarts, gallons and five-gallon pails. 30 and 50 gallon drums can be ordered.
SDS	Available upon request

GENERAL FEATURES

- An extremely diverse adhesion range
- Brilliant colors with a gloss finish
- Easy clean up
- Up to 5 years light-fastness*
- Automotive grade pigments

ADDITIVES AND THINNERS

Stir the ink well before every use. The 5000 Ink Series is supplied in a press ready condition for most Applications and printing equipment. Use TW-1820 or water for normal press viscosity reduction by no more than 5 to 10% by weight. Retarders should be used sparingly to reduce the inks drying time within the screen. Use TW-1823 slow retarder for fine detail printing, slow print cycles or high temperature conditions.

Use no more than 5 to 10% of thinner or retarder by weight. 5100 Defoamer can be used by 1 to 2% by weight to eliminate the "bubbling" or foaming effect of the ink when printing at high press speeds. An over reduction with retarders, and thinners can result in blocking and a significant

reduction in drying speed. Never exceed recommended levels of reduction.

Use 2 to 3% of WB Activator by weight to improve chemical resistance. Please note however, that the WB Activator will stay active within the ink for only a 24 hour period under most conditions. The ink can be reactivated one additional time after the first 24 hour is complete by re-adding the Activator. We strongly recommend mixing only enough ink with the WB Activator estimated for a 24 hour period. 4108 Flattening Powder can be used to change the gloss level of the ink to a satin or flat finish. Only 1 to 8% of Flattening Powder needs to be added by weight to change the ink's gloss level. Please be aware that the addition of the 4108 Flattening Powder increases the viscosity of the ink. Reduce with the appropriate amount of water or thinner as necessary.

5009 Liquid Thickener can be used to increase the inks viscosity. This is normally added when printing fine detail or halftone areas. Only 1/2 to 1% of Thickener needs to be added by weight to increase the inks viscosity. After adding the Thickener to the ink, mix very well and allow the viscosity to fully develop for 10 minutes before use within production.

ADHESION TESTING

It is imperative that all substrates are tested prior to use within production. Even similar materials can vary between different batches, manufacturers or the age and storage time of the particular substrate. Once the ink has been fully dried and allowed to cool down, the adhesion should be tested by:

Cross Hatch Test—Using a sharp blade or cross hatch knife, cut through the film of the ink only, then Apply 3M #600 tape firmly on the cut area. Rub the tape down firmly then rip off. Ink should only come off in the straight cut areas.

PRODUCT RANGE

The 5000 Ink Series includes the Single Pigment Mixing Colors, Standard Colors and the Advanced Color Gamut™ four-color process inks.

Single pigment mixing colors

Code	
5001	GREEN SHADE YELLOW
5002	RED SHADE YELLOW
5003	YELLOW SHADE RED
5004	BLUE SHADE RED
5005	MAGENTA
5006	MAROON
5007	VIOLET
5008	RED SHADE BLUE
5009	GREEN SHADE BLUE
5010	BLUE SHADE GREEN
5011	YELLOW SHADE GREEN

Standard colors

Code	
5012	LEMON YELLOW
5013	MEDIUM YELLOW
5014	FIRE RED (anche colore mono-pigmento)
5015	RUBINE
5016	WARM RED
5017	EMERALD GREEN
5018	PROCESS BLUE
5019	REFLEX BLUE**
5020	ULTRA BLUE**
5021	HI-HIDE WHITE
5025	OPAQUE BLACK
5030	CLEAR GLOSS BASE
5031	OVER PRINT CLEAR
5032	METALLIC CLEAR

** 2 year out door light fastness

ADVANCED COLOR GAMUT™ Halftone colors

Code	
5040	HALFTONE YELLOW
5041	HALFTONE MAGENTA
5042	HALFTONE CYAN
5043	HALFTONE BLACK
5044	HALFTONE EXTENDER BASE

Additives / thinners

Code	
TW-1823	SLOW RETARDER
TW-1822	THINNER
TW-1820	FAST DRY THINNER
	WB ACTIVATOR
5100	DEFOAMER
4108	FLATTENING POWDER
5009	LIQUID THICKENER

COLOR CONCENTRATES

These highly pigmented Color Concentrates are compatible with all of the TW Graphic's water-based ink lines. The concentrates are offered to advanced color formulators who wish to have the flexibility to create an endless range of colors. Please read the section directly below on how to use the Color Concentrates appropriately within our water-based ink systems.

WB-01 Green Shade Yellow
 WB-02 Red Shade Yellow
 WB-03 Yellow Shade Red
 WB-04 Blue Shade Red
 WB-05 Magenta
 WB-06 Maroon
 WB-07 Violet
 WB-08 Red Shade Blue
 WB-09 Green Shade Blue
 WB-10 Blue Shade Green
 WB-11 Yellow Shade Green
 WB-40 Halftone Yellow
 WB-41 Halftone Magenta
 WB-42 Halftone Cyan
 WB-43 Halftone Black
 WB-25 Black
 WB-21 White
 Fluorescent (9)

CONCENTRATE MIXING INSTRUCTIONS

The WB Series Color Concentrates may be added to any of the TW Graphics 1000, 4000, 5000 and 5500 water-based ink series. Please take note however that these concentrates are not press ready inks and must be used proportionately with a Clear Base or white to maintain the inks printing integrity.

Do not use more than 30% Color Concentrate by weight to the Clear Base. Color Concentrate should be added slowly into the vortex of the base mix on a power mixer. Make certain that the ink is mixed thoroughly.

*DURABILITY AND LIGHT-FASTNESS

Although outdoor durability cannot be specified exactly; accelerated weathering tests indicate that the 5000 Series Ink Line has an exterior life up to five years on most substrates, with exception to Reflex and Ultra Blue. Reflex and Ultra Blue has an exterior life up to two years. Variables within production and the end products use within the field will greatly affect a printed substrates durability.

A slight change in color and gloss level should be expected.

IMPORTANT NOTE

The information given in this technical sheet is not intended to be exhaustive and any person, using the product for any purpose other than that specifically recommended in this sheet without first obtaining written confirmation from us to the suitability of the product for the intended purpose, does so at his own risk.

While we endeavour to ensure that all advice we give about the product is correct, we have no control over either the quality or condition of the substrate or the many factors affecting the use and application of the product.

Therefore, unless we specifically agree in writing to do so, we do not accept any liability whatsoever or howsoever arising for the performance of the product or for any loss or damage arising out of the use of the product.

The information contained in this sheet is liable to modification from time to time in the light of experience and our policy of continuous product development.