

3800 Series Poly Banner Ink has been formulated specifically for indoor and outdoor treated polyethylene banner applications, where excellent adhesion and superior flexibility are required. Properly cured, this ink will resist blocking when stacked ink to ink.

**SUBSTRATES** Surface treated polyethylene banner film (45 dynes per cm or higher)

## USER INFORMATION

*While technical information and advice on the use of this product is provided in good faith, the User bears sole responsibility for selecting the appropriate product for their end-use requirements. See full disclaimer at the end of the document.*

**MESH** 355-420 tpi (140-165 tpcm) monofilament polyester mesh for most applications

**STENCIL** Solvent resistant, UV ink compatible direct emulsions and capillary films

**SQUEEGEE** 70-90 durometer polyurethane squeegee

**COVERAGE** 2,500 - 3,800 square feet (232 - 353 square meters) per gallon depending upon ink deposit

**PRINTING** 3800 Series ink is formulated to be press ready. Thoroughly mix the ink prior to printing. Maintain ink temperature at 65°-90°F (18°-32°C) for optimum print and cure performance. Lower temperatures increase the ink viscosity, impairing both flow and cure. Elevated temperatures lower the ink viscosity, reducing print definition, film thickness and opacity. Pretest to determine optimum printing performance for a particular set of ink, substrate, screen, press, and curing variables/conditions. The inks can be affected by stray UV light in and around a printing facility. Be aware of skylights, windows and overhead lights curing the ink in the screen. Light filters are recommended.

**CURE PARAMETERS** 3800 Series ink cures when exposed to a medium pressure mercury vapor lamp set at 200 watts per inch with millijoules (mJ) and milliwatts (mW) of:  
 100-130 mJ/cm<sup>2</sup> @ 600+ mW/cm<sup>2</sup> for most colors  
 150-180 mJ/cm<sup>2</sup> @ 600+ mW/cm<sup>2</sup> for 3852, 3878, 3879  
 These guidelines are intended only as a starting point for determining cure parameters, which must be determined under actual production conditions.  
 To increase mJ levels, slow down the belt speed or scan speed. To increase mW levels, increase the wattage setting of the UV reactor. To optimize mJ and mW output, maintain the bulb and reflector condition and focus to the substrate.  
 The values mentioned above are representative of measurements taken using an EIT UVICURE Plus radiometer measuring the UVA bandwidth (320-390 nm). To obtain accurate readings with the UVICURE Plus, reduce the belt speed to less than 40 ft/min.

**CLEAR / VARNISHES** *Mixing Clear / Metallic Mixing Clear:* Use 3826 Mixing Clear to reduce the density of colors or as a clear base for specialty additives such as Metallics.

<b>ADDITIVES</b>	<p>All additives should be thoroughly mixed into the ink before each use. Prior to production, test any additive adjustment to the ink.</p> <p><u>Reducer:</u> Use RE308 UV Reducer to reduce the viscosity of these inks. Add up to 10% by weight.</p>
<b>CLEAN UP</b>	<p><u>Screen Wash (Prior to Reclaim):</u> Use IMS203 Economy Graphic Screen Wash or IMS207C Graphic Recirculating Wash</p> <p><u>Press Wash (On Press):</u> Use IMS301 Premium Graphic Press Wash</p>
<b>STORAGE</b>	<p>Store tightly covered at a temperature between 65°-90°F (18°-32°C). Ink taken from the press should not be returned to the original container; store separately to avoid contaminating unused ink.</p>
<b>PROCESSING</b>	<p><u>Finishing:</u> The adhesion and flexibility benefits of 3800 Series Ink allow for folding, sewing, and grommeting through the ink layer.</p> <p><u>Mounting:</u> When a printed banner is to be mounted outside, it is important to secure all four corners of the banner. Abrasion of the printed banner while wet from rain may result in ink delamination.</p>

## GENERAL INFORMATION

<b>INK HANDLING</b>	<p>Wear gloves and barrier cream to prevent direct skin contact. Safety glasses are suggested in areas where ink may be splashed. If ink does come in contact with skin, wipe ink off with a clean, dry cloth (do not use solvent or reducer). Wash the affected area with soap and water. Consult the 3800 Material Safety Data Sheet for further instructions and warnings.</p> <p>3800 Series is a one-part, 100% solids UV-curable screen printing ink and does not contain N-vinyl-2-pyrrolidone (trade name V-Pyrol®).</p>
<b>ADHESION TESTING</b>	<p>Even when recommended UV energy output levels are achieved, it is imperative to check adhesion on a <b>cooled down</b> print:</p> <ol style="list-style-type: none"> <li>1. Touch of ink surface – the ink surface will be smooth and slick.</li> <li>2. Thumb twist – the ink surface will not mar or smudge.</li> <li>3. Scratch surface – the ink surface will resist scratching. Polyethylene banner scratches easily, so use magnification to determine if scratches are ink only or ink and top layer of substrate.</li> <li>4. Cross hatch tape test – use a cross hatch tool or a sharp knife to cut through ink film only; then apply 3M #600 clear tape on cut area, rub down, wait for 1 minute and rip off at a 180 degree angle. Ink should only come off in actual cut areas.</li> </ol> <p>Full adhesion characteristics are demonstrated within 4 hours after cure.</p>

## PRODUCT OFFERING

<b>STANDARD PRINTING COLORS</b>	<p>Standard Printing Colors have excellent opacity and flow characteristics. These colors are intended to work well from the container.</p>
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### PANTONE MATCHING SYSTEM® BASE COLORS

Pantone Matching System® Base Colors are used to simulate the Pantone® Formulation Guide. These inks are press ready, can be used in matches to achieve Pantone® color simulations, or let down with mixing clear. The ColorStar® Color Management System software provides blend formulations using Pantone Matching System® Base Colors. These blend formulations are also available at [www.nazdar.com](http://www.nazdar.com).

*60 Series Colors:* 3861-3869 colors have a high pigment concentration. These colors are formulated to have some white pigment or opaque pigment in order to increase opacity.

### HALFTONE COLORS

*Halftone Extender Base* is used to reduce the density of any of the halftone colors.

*Standard Halftone Colors* are formulated with hues and densities matched to the high end of the SWOP standards.

*Dense Halftone Colors* are formulated with increased densities over the Standard Halftone densities and are designed for printers that want to have the latitude to adjust the density levels of their halftone inks.

### SPECIAL ADDITIVES

When inks are to be printed over a special effect color, the overprinting ink(s) must be evaluated for intercoat adhesion before proceeding with the production run. To maximize intercoat adhesion, specialty colors should be printed as late as possible in the print sequence. Pigments may settle in the container; prior to printing, thoroughly mix the ink.

The following special effect pigments may be added to 3800 Series. These pigments are available in 1-pound containers. Contact Nazdar for the item number(s) and availability of special effect products.

*Metallics:* Silver (aluminum) - Add up to 8% by weight, Gold (bronze) - add up to 15% by weight. Mix only enough metallic ink to be used the same day. Chemical reactions in metallic inks may result in viscosity, color and printability changes over time.

*Pearlescents / Interference / Multi-Chromatic:* Pearlescent and Interference pigments - add up to 20% by weight, Multi-Chromatic pigments - add up to 10% by weight. See the Pearlescent, Interference, and Multi-Chromatic Technical Data Sheets for more information.

Pantone 871c to 877c have been matched in 3800 Series Ink using the Pearlescent Pigments.

### COLOR CARD MATERIALS

The following is a list of screen printed samples available.

*UV Color Card:* shows the Standard Printing Colors, Pantone Matching System® Base Colors, Halftone Colors

*Special Effects Color Card:* shows Metallic, Pearlescent, Interference, and Multi-Chromatic effects mixed with clear

*Non-Metallic Pantone® Simulations sheet:* shows representations of the 871c to 877c Pantone® Metallic color matches using pearlescent pigments

### PACKAGING / AVAILABILITY

All items listed below are inventoried items and available in gallon containers.

Stock Number	Standard Printing Colors	Stock Number	Standard Printing Colors
3810	Primrose Yellow	3820	Brilliant Orange
3811	Lemon Yellow	3826	Mixing Clear
3812	Medium Yellow	3852	Super Opaque Black
3818	Scarlet Red	3875	Super Opaque White
3819	Fire Red	3879	High Intensity Black
Stock Number	Pantone Matching System® Base Colors	Stock Number	Halftone Colors
3858	Tinting White	3890	Halftone Extender Base
3859	Tinting Black	3891	Halftone Cyan
3861	Yellow	3892	Halftone Magenta
3862	Warm Red	3893	Halftone Yellow
3863	Rubine Red	3894	Halftone Black
3864	Rhodamine Red	38101	Halftone Cyan Dense
3865	Purple	38102	Halftone Magenta Dense
3866	Violet	38103	Halftone Yellow Dense
3867	Reflex Blue	38104	Halftone Black Dense
3868	Process Blue		
3869	Green		

**PACKAGING / AVAILABILITY**

All items listed below are inventoried items.  
Additives/Reducers are available in quart and gallon containers.  
Cleaners are available in gallon, 5 gallon, and 55 gallon containers.

Stock Number	Additives/Reducers	Stock Number	Cleaners
RE308	UV Reducer	IMS203	Economy Graphic Screen Wash
		IMS207C	Graphic Recirculating Wash
		IMS301	Premium Graphic Press Wash

*Nazdar® stands behind the quality of this product. Nazdar® cannot, however, guarantee the finished results because Nazdar® exercises no control over individual operating conditions and production procedures. While technical information and advice on the use of this product is provided in good faith, the User bears sole responsibility for selecting the appropriate product for their end-use requirements. Users are also responsible for testing to determine that our product will perform as expected during the printed item's entire life-cycle from printing, post-print processing, and shipment to end-use. This product has been specially formulated for screen printing, and it has not been tested for application by any other method. Any liability associated with the use of this product is limited to the value of the product purchased from Nazdar®.*

Based on information from our raw material suppliers, these products are formulated to contain less than 0.06% lead. If exact heavy metal content is required, independent lab analysis is recommended.

Nazdar Worldwide Headquarters  
8501 Hedge Lane Terrace, Shawnee, KS 66227-3290 USA  
Toll Free: 866.340.3579 or Tel: 913.422.1888 Fax: 913.422.2296  
e-mail: [custserv@nazdar.com](mailto:custserv@nazdar.com)

Nazdar Limited  
Barton Road, Heaton Mersey, Stockport, England SK4 3EG  
Tel: + (44) 0.161.442.2111 Fax: + (44) 0.161.442.2001  
e-mail: [technicalservicesuk@nazdar.com](mailto:technicalservicesuk@nazdar.com)

<http://www.nazdar.com>