

System-2 Series ink is a high gloss, solvent-based screen ink formulated for optimum performance on pressure-sensitive vinyls and top coated polyesters used for decal applications.

SUBSTRATES Pressure-sensitive vinyl and print-treated polyester decals

USER INFORMATION

MESH 230-305 tpi (90-120 tpcm) monofilament polyester mesh for most applications

STENCIL Solvent resistant direct emulsions and capillary films

SQUEEGEE 70-80 durometer polyurethane squeegee

COVERAGE 1200-1800 square feet (112 – 162 square meters) per gallon depending upon ink deposit

PRINTING System-2 Series ink must be thinned approximately 10% prior to printing. (See additive section) Add only enough ink to the screen to be able to print for 5-10 minutes. Add additional ink in small increments throughout the print run to maintain screen stability. Thoroughly mix the inks prior to printing.

Maintain ink temperatures at 65°-90°F (18°-32°C) for optimum print drying performance. Lower temperatures increase the ink viscosity, impairing both flow and drying. 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 drying variables/conditions.

DRYING System-2 dries by solvent evaporation and jet dries at temperatures of 90-150°F. (32-66°C.). Good air circulation is necessary to remove the vaporized solvents. Multiple layers of ink may require longer drying times than a single layer.

CLEARS / VARNISHES Mixing Clear / Metallic Mixing Clear: Use S226 Mixing Clear to reduce the density of colors or as a clear base for specialty additives such as Metallics.

Overprint Clear: Use S227 Overprint Clear to provide added surface protection and extend the weatherability and outdoor durability.

ADDITIVES All additives should be thoroughly mixed into the ink before each use. Prior to production, test any additive adjustment to the ink.

Reducer: Use S230 Thinner to reduce the viscosity of these inks. Add up to 20% by weight.

Retarder: Use S231 Retarder to improve screen stability during hot climate conditions or for slower drying. Add up to 20% by weight. CARE53 Gel Retarder can be used to improve screen stability without lowering the viscosity or when printing fine line details. Add up to 10% by weight. Over reduction with retarders can result in blocking.

Note: CARE53 is not recommended to be used for backlit applications.

CLEAN UP

Screen Wash (Prior to Reclaim): Use IMS201 Premium Graphic Screen Wash

Press Wash (On Press): Use IMS301 Premium Graphic Press Wash

STORAGE

Store tightly covered at temperatures 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.

GENERAL INFORMATION

INK HANDLING

All personnel mixing and handling these products must wear gloves and eye protection. Clean up spills immediately. If ink does come in contact with skin, wipe ink off with a clean, dry, absorbent cloth (do not use solvent or thinner). Wash the affected area with soap and water. Consult the System-2 Series Material Safety Data Sheet for further instructions and warnings.

ADHESION TESTING

It is imperative to check adhesion on a **cooled down** print:

1. Touch of ink surface – the ink will be smooth and slick.
2. Thumb twist – the ink surface will not mar or smudge.
3. Scratch surface – the ink will resist scratching.
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.

WEATHERING / OUTDOOR DURABILITY

At full strength and properly dried, System-2 colors are formulated to provide 3 years outdoor durability when mounted vertically in the Central U.S.A. The use of S227 Overprint Clear increases the projected outdoor durability to 4 years.

Outdoor durability cannot be specified exactly. Slight color change and loss of gloss should be expected. Variables affecting a printed part's durability include:

- Ink film thickness and degree of curing
- Color formulation:
 - Adding large amounts of mixing clear or white to any color
 - Mixing several colors to achieve a specific color
 - Mixing a small quantity of any single color with any other color
- Substrate type and age
- Mounting angle or directional orientation
- Geographic location
- Air pollution
- Exposure to excessive abrasion (for example, brush car washes)
- Non-clear coated prints exhibit more color change and loss of gloss

Exceptions: S250 Barrier White, S258 Tinting White, S275 Super Opaque White will chalk during exposure. S212 Medium Yellow darkens with exposure.

Fluorescent colors fade quickly with exposure to UV light and are not rated for Outdoor Durability.

PRODUCT OFFERING

STANDARD PRINTING COLORS

The Standard Printing Colors have excellent opacity and flow characteristics

PANTONE MATCHING SYSTEM® BASE COLORS

The Pantone Matching System® Base Colors are used to simulate the Pantone® Color Formulation Guide. These inks can be used in matches to achieve Pantone® color simulations, or let down with mixing clear. The ColorStar® Color Management System software uses Pantone Matching System® Base Colors. These color formulations are also available at www.nazdar.com.

HALFTONE COLORS

Halftone Extender Base S2HTEX Halftone Extender Base is used to reduce the density of any of the halftone colors.

Halftone Colors are formulated with increased densities in order to have the flexibility to satisfy most process color density requirements.

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 the System-2 inks. These pigments are available in 1-pound containers. Contact Nazdar® for the item number(s) and availability of each special effect product.

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 20% by weight. See the Pearlescent, Interference, and Multi-Chromatic Technical Data Sheets for more information.

Phosphorescents: Add up to 30% by weight.

Fluorescents: Add up to 30% by weight. Fluorescent colors fade quickly with exposure to ultraviolet light.

COLOR CARD MATERIALS

The following is a list of screen printed samples available.

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

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

PACKAGING

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

'LF' ITEM NUMBERS

Colors with an item number containing 'LF' indicate a lead-free alternative that replaced a lead containing color. All colors listed in this document are lead-free.

Stock Number	Standard Printing Colors	Stock Number	Pantone Matching System® Base Colors
S2LF10	Primrose Yellow	S226	Mixing Clear
S2LF11	Lemon Yellow	S258	Tinting White
S2LF12	Medium Yellow	S259	Tinting Black
S2LF13	Emerald Green	S260	Orange
S219	Fire Red	S261	Yellow
S2LF20	Brilliant Orange	S262	Warm Red
S221	Peacock Blue	S263	Rubine Red
S222	Ultra Blue	S264	Rhodamine Red
S224	Black	S265	Purple
S227	Overprint Clear	S266	Violet
S250	Barrier White	S267	Reflex Blue
S275	Super Opaque White	S268	Process Blue
		S269	Green
		Stock Number	Halftone Colors
		S2HTEX	Halftone Extender Base
		S2HTB	Halftone Blue
		S2HTR	Halftone Red
		S2HTY	Halftone Yellow
		S2HTBK	Halftone Black

PACKAGING

Additives/Reducers are available in gallon containers.
 Cleaners are available in gallon, 5 gallon and 55 gallon containers.

Stock Number	Additives/Reducers	Stock Number	Clean Up
S248	Flattening Paste (quarts available)	IMS201	Premium Graphic Screen Wash
S230	Thinner	IMS301	Premium Graphic Press Wash
S231	Retarder		
CARE53	Gel Retarder (quarts available)		

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.

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