

8400 Series CVIM Screen Ink has been formulated to meet processing requirements of the insert mold decorating market such as flexibility for forming and post-forming trimming, resistance to wash out during the molding process and adhesion to polycarbonate injection mold resin.

8400 Series ink is for second surface printing on polycarbonate, polycarbonate blend, or pre-treated polyester films which will be formed then molded in the insert mold decorating (IMD) applications.

The addition of NB72 Catalyst or NB80 Adhesion Promoter is necessary for in-mold decorating applications to prevent wash out during the molding process. For non IMD applications, the addition of catalyst or adhesion promoter may not be necessary.

SUBSTRATES Polycarbonate, polycarbonate blends and primed/pre-treated polyester used for insert mold decoration.

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 200 - 305 threads per inch (77 – 120 threads per cm) monofilament polyester mesh for most applications.

STENCIL Solvent resistant direct emulsions and capillary films

SQUEEGEE 60-80 durometer polyurethane squeegee

COVERAGE 1200-1800 square feet (111 – 167 square meters) per gallon depending upon ink deposit

PRINTING 8400 Series ink is formulated to be press ready. 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 temperature 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/ CURING

8400 Series dries by solvent evaporation. Conveyorized dryers set at temperatures of 150° - 190°F (66° - 88°C) will dry the ink in 30 to 40 seconds. Good air circulation is necessary to remove the vaporized solvents. Multiple layers of ink may require longer drying times than a single layer.

Initial drying – the 8400 ink must be dried with heat immediately after printing. The ink film must be dry to touch before subsequent layers are printed and dried.

After the initial drying, the catalyzed ink film will continue to cure. For complete cure, bake in 140°F (60°C) for 4 hours or allow at least 3 days at room temperature and at least 50% RH before further processing (forming and molding). Room temperature curing time will vary depending on the relative humidity (RH)

Ink film that is not thoroughly dried and cured may transfer on to the mold during the forming process, prevent adhesion of the injected resin to the ink film and may be susceptible to wash out during the molding process.

Due to the soft ink film that the 8400 forms, block resistance should be carefully tested prior to stacking printed pieces.

CLEARS / VARNISHES

Mixing Clear / Overprint Clear / Metallic Mixing Clear: Use 8427 Mixing Clear/Overprint Clear to reduce the density of colors or as a clear base for specialty additives such as Metallics.

ADDITIVES

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

Reducer: Use RE195 Thinner/Screen Wash to reduce the viscosity of the inks. Add up to 15% by weight. RE195 may also be used to wash ink from the screen.

Retarder: RE196 Retarder may be added up to 15% by weight; or in combination with RE195 Thinner/Screen Wash up to 15% by weight depending on production environmental conditions.

Catalyst: When printing the 8400 Series for insert mold decorating applications, add up to 5% by weight NB72 Catalyst or up to 4% NB80 Adhesion Promoter. The addition of NB72 Catalyst or NB80 Adhesion Promoter will provide optimum resistance to wash out in the molding process. This will produce a usable pot life of the ink mixture of 4 to 8 hours. Only mix quantities for immediate use. The addition of higher percentages of NB72 or NB80 will make the ink film less flexible. NB80 must be used if the end application requires weatherability.

The recommended sequence for adding additives is: thinner and/or retarder first and the catalyst or adhesion promoter last. Mix thoroughly.

Flattening Powders: Use 8448 Flattening Paste to reduce gloss, improve slip, and for better adhesion to PC blend injection molding resin. Add up to 10% by weight. Add 8448 to any color which comes in contact with the in-mold resin. The addition of 8448 may also prevent the printed parts from sticking to the mold during forming. This is especially necessary in molding processes that require high heat and pressure.

Leveling Agent: Use CARE67 Leveling Agent to reduce pinholes/air bubbles present in the printed ink film. Add up to 1% by weight. If pinholes/air bubbles are present in the printed ink film, first add RE195 Thinner beginning at the recommended percentages by weight. Use CARE67 only if pinholes/air bubbles are still noticeable after adding the maximum amount of RE195.

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.

PROCESSING Printed parts that have been thoroughly dried and post cured may be formed, die or laser cut and molded. Some films absorb atmospheric moisture; consult with the film supplier for information concerning whether or not the printed films need to be dried prior to forming.

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 8400 Series Material Safety Data Sheet for further instructions and warnings.

ADHESION TESTING It is imperative to check adhesion on a **fully cured** 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.

PRODUCT OFFERING

STANDARD PRINTING COLORS The Standard Printing Colors have excellent opacity, flow characteristics, and are intended to work well from the container.

HALFTONE COLORS Halftone Extender Base 84HTEX 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.

SINGLE PIGMENT TONERS The Single Pigment Toners are press ready, can be used in color matches, or let down with mixing clear.

TRANSPARENT COLORS The Transparent Colors exhibit very good transparency and depth of color.

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.

The following special effect pigments may be added to the 8400 Series inks. These pigments are available in 1-pound containers. Contact Nazdar for the item number(s) and availability of each special effect product. Pigments may settle in the container; prior to printing, thoroughly mix the ink.

Silver (aluminum) Metallic: add up to 8% by weight.

Gold (bronze) Metallic: 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 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.

Phosphorescents: add up to 20% by weight.

Fluorescents: add up to 25% 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 and Single Pigment Toners.

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

PACKAGING

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

Stock Number	Standard Printing Colors	Stock Number	Single Pigment Toners
8410	Primrose Yellow	8480	Yellow Toner
8411	Lemon Yellow	8481	Orange Toner
8412	Medium Yellow	8482	Carmine Toner
8413	Emerald Green	8483	Magenta Toner
8418	Scarlet Red	8484	Maroon Toner
8419	Fire Red	8485	Green Toner
8420	Brilliant Orange	8486	Blue Toner (GS)
8421	Peacock Blue	8487	Blue Toner (RS)
8422	Ultra Blue	8488	Violet Toner
8427	Mixing/Overprint Clear	8489	Red Toner
8450	Barrier White		
8452	Super Opaque Black		



8400 SERIES CVIM CONVENTIONAL INSERT MOLD DECORATING SCREEN INK

TECHNICAL DATA SHEET

Halftone Colors		Transparent Colors	
84HTEX	Halftone Extender Base	84PB12	Transparent Medium Yellow
84HTC	Halftone Cyan	84PB18	Transparent Red
84HTM	Halftone Magenta	84PB60	Stop Sign Red
84HTY	Halftone Yellow		
84HTBK	Halftone Black		

PACKAGING

Additives/Reducers are available in quarts and/or gallon containers.
Cleaners are available in 1-gallon, 5-gallon and 55-gallon containers.

Stock Number	Additives/Reducers	Stock Number	Clean Up
8448	Flattening Paste	IMS201	Premium Graphic Screen Wash
CARE67	Leveling Agent	IMS301	Premium Graphic Press Wash
NB72	Catalyst		
NB80	Adhesion Promoter		
RE195	Thinner/Screen Wash		
RE196	Retarder		

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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