Technical Data Sheet

Nazdar 9600 Series Polyester Screen Ink

NAZDAR INK TECHNOLOGIES

v 14 EN

Ref: v 13 EN

9600 Series Screen Ink is designed primarily for printing on untreated polyester films. The ink dries to a film exhibiting good gloss and flexibility with the exception of 9652 Super Opaque Black, which exhibits a matte, but flexible ink film. 9600 Series may be catalyzed with NB72 Catalyst or NB80 Adhesion Promoter for adhesion to a diverse range of substrates including polyester, some rubber, polycarbonate, melamine plastics, leather and some coated and uncoated metals. When printing 9600 Series on polycarbonate for insert-mold decorating applications, up to 5% by weight addition of NB72 provides optimum performance.

Substrates

- Untreated polyester
- Polyester coated surfaces
- Some treated or top coated polyester films
- Polycarbonate

Substrate recommendations are based on commonly available materials intended for the ink's specific market when the inks are processed according to this technical data. 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. Reference the 'Quality Statement' at the end of this document.

User Information

Mesh

200-330 tpi (77-130 tpcm) monofilament polyester mesh for most applications.

Stencil

Use direct emulsions and capillary films which are solvent resistant.

Squeegee

70-80 durometer polyurethane squeegee.

Coverage

Estimated 1,200-1,800 square feet (112 - 167 square meters) per gallon depending upon ink deposit. Reference www.nazdar.com for examples of coverage calculations.

Printing

9600 Series is formulated for the 9630 Thinner to be added up to 15% by weight to improve flow. 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 ink prior to printing. Improper mixing can lead to inconsistent color and ink performance.

Maintain ink temperature at 65°-90°F (18°-32°C) for optimum print and cure performance. Lower temperatures increase the ink viscosity, impairing flow and increasing film thickness. Elevated temperatures lower the ink viscosity, reducing print definition and film thickness.

Pretest to determine optimum printing parameters for a particular set of ink, substrate, screen, press, and curing variables/conditions.

Nazdar does not recommend inter-mixing of 9600 Series with other inks besides the 9600 Series.

Pad Printing

9600 Inks can be pad printed. The use of thinners or retarders may be required to achieve the correct transfer. Please follow the printing and drying guidelines.

Drying / Curing Parameters

9600 Series dries by solvent evaporation and dries at temperatures of 90°-150°F (32°-66°C) in seconds. Due to the softer ink film which 9600 forms, block resistance testing should be carefully performed prior to production. Good air circulation is necessary to remove the vaporized solvents. Multiple layers of ink may require longer drying times than a single layer.

When catalyst has been added to the ink, the catalyzed ink film will continue to cure after the initial drying. For complete curing, bake at 140°F (60°C) for 4 hours or allow at least 3 days at room temperature before further processing.

Clears / Varnishes

Mixing Clear / Metallic Mixing Clear: Use 9627 Mixing Clear to reduce the density of colors or as a clear base for specialty additives such as Metallic powders and pastes.

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Common Performance Additives

Additives should be thoroughly mixed before each use. Prior to production, test any additive adjustment to the ink. Inks containing additives should not be mixed with other inks.

Example for additives: Ink at 100g with 8% of an additive is calculated as:

100g ink + 8g additive = 108g total

Reducer: Use 9630 Thinner to reduce the viscosity of these inks and improve flow. Add up to 15% by weight.

Retarder: Use 9631 Retarder to improve screen stability during hot climate conditions. Add up to 10% by weight.

Use RE191 Retarder as an alternative for 9631 Retarder to improve screen stability. Add up to 10% by weight. The use of RE191 may have different effects on plastics compared to the 9631 Retarder; fully test prior to full production.

The use of any retarder in excess of 10% will significantly slow the drying rate of the ink. When retarder is used, it is important to ensure that the drying process is adequate in order to prevent blocking.

Catalyst / Adhesion Promoter: Use NB72 Catalyst or NB80 Adhesion Promoter to enhance adhesion on certain materials. If catalyzing with NB72, add 1 part NB72 to 9 parts 9600 Series by weight. The addition of NB72 may cause yellowing of the ink film on exposure to sunlight. For applications requiring some outdoor exposure, use NB80 up to 10% by weight.

Shelf life of catalyzed ink is approximately 6 to 8 hours. Improved adhesion will be demonstrated after 24 hours, with full cross linking in 3-7 days.

Flattening Powders: Use 9648 Flattening Paste to reduce gloss. Add up to 20% by weight.

Cleanup

Screen Wash (Prior to Reclaim): Use 9637 Screen Wash, IMS201 Premium Graphic Screen Wash, IMS203 Economy Graphic Screen Wash, or IMS206 Graphic Auto Screen Wash.

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

Storage / Shelf Life

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Store closed containers at temperatures between 65°-78°F (18°-25°C). Storing products outside of these recommendations may shorten their shelf life. Ink taken from the press should not be returned to the original container; store separately to avoid contaminating unused ink.

Standard 9600 Series items are useable for a period of at least 24 months from the date of manufacture. To obtain the shelf life for special inks and additives, contact Nazdar Customer Service or Nazdar Technical Service - see contact listing at the end of this document. Contact Nazdar Technical Service at InkAnswers@nazdar.com, for any questions.

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 applicable Safety Data Sheet (SDS / MSDS) for further instructions and warnings.

For assistance on a wide range of important regulatory issues, consult the following Regulatory Compliance Department link at http://www.nazdar.com or contact Nazdar Ink Technologies - World Headquarters (see contact listing at the end of this document).

Adhesion Testing

1. Touch of ink surface – the ink surface should be smooth.
2. Thumb twist – the ink surface should not mar or smudge.
3. Scratch surface – the ink surface should resist scratching.
4. Cross hatch tape test – per the ASTM D-3359 method, 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, and rip off at a 180 degree angle. Ink should only come off in actual cut areas.

Manufacturer's Product Offering

Based on information from our raw material suppliers, these ink products are formulated to

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contain less than 0.06% lead. If exact heavy metal content is required, independent lab analysis is recommended.

Standard Printing Colors

Standard Printing Colors have excellent opacity.

Halftone Colors

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.

Transparent Colors

Transparent Colors produce clean and vibrant colors.

Special Effect Pigments

When inks are to be printed with a special effect color, all ink layers must be evaluated for intercoat adhesion before proceeding with the production run. Pigments may settle in the container; prior to printing, thoroughly mix the ink.

The following special effect pigments may be added to 9600 Series. Contact Nazdar for the item number(s) and availability of special effect products. Technical Data Sheets for each of the following special effect pigments can be found at www.nazdar.com.

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

Metallic Gold (bronze): Add up to 15% by weight.

Chemical reactions in metallic inks may result in viscosity, color and printability changes over time; due to this, mix only enough metallic ink to be used the same day.

Pearlescent / Interference: Add up to 20% by weight.

Multi-Chromatic: Add up to 10% by weight.

Phosphorescent: 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

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The following is a list of available screen printed samples of the 9600 Series.

Conventional Color Card (CARD375): shows the Standard Printing Colors and Halftone Colors.

Special Effects Color Card (CARDSPL): shows various special effect pigments mixed with clear.

Packaging / Availability

Contact your Nazdar distributor for product availability and offering.

Standard Ink Items

Check with your distributor for available container sizes.

Item Number	Color
96LF10	Primrose Yellow
96LF11	Lemon Yellow
96LF12	Medium Yellow
96LF13	Emerald Green
9619	Fire Red
96LF20	Brilliant Orange
9621	Peacock Blue
9622	Ultra Blue
9624	Black
9625	White
9627	Mixing/Overprint Clear
9650	Barrier White
9652	Flat Super Opaque Black

Non-Standard Ink Items

Non-Standard ink items listed below are special order, non-inventoried colors which may require additional lead time. Check with your distributor for available container size.

Transparent Colors

Item Number	Color
96410	Yellow
96411	Warm Red
96417	Rubine Red
96418	Rhodamine Red
96433	Purple
96440	Process Blue
96441	Green
96PB10	Trans Primrose Yellow
96PB13	Trans Green

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96PB18	Trans Red
96PB22	Trans Blue
96PB33	Trans Purple
96PB60	Stop Sign Red

Halftone Colors

Item Number	Color
96HTEX	Halftone Extender Base
96HTB	Halftone Blue
96HTR	Halftone Red
96HTY	Halftone Yellow
96HTBK	Halftone Black

Additives / Reducers

Item Number	Color
9630	Thinner
9631	Retarder
9648	Flatting Paste
NB72	Catalyst
NB80	Adhesion Promoter
RE191	Retarder

Cleaners / Clean Up

Item Number	Color
9637	Screen Wash
IMS201	Premium Graphic Screen Wash
IMS203	Economy Graphic Screen Wash
IMS206	Graphic Auto Screen Wash
IMS301	Premium Graphic Press Wash

Nazdar Quality Statement

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®.

Nazdar Ink Technologies Offices

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