Nazdar 8900 Series SuperSet Thermo-Set Screen Ink

Nazdar 8900 Series SuperSet Thermo-Set is a high solids, high gloss solvent-based screen ink. A single component, cross linked product, 8900 Series is formulated for printing on pre-coated metal surfaces. Properly cured, 8900 Series exhibits excellent resistance to many solvents, chemicals, humidity and abrasion. 8900 Series is specifically designed to provide maximum flexibility and intercoat adhesion.

Substrates

Pre-coated metal, including: enamel, polyester, acrylic, vinyl, and epoxy coatings

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.

Mesh

230-305 tpi (90-120 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

Depending upon ink deposit, the estimated coverage per gallon: 1,200-1,800 square feet (111-167 square meters)
Reference www.nazdar.com/en-us/ColorStar for examples of coverage calculations.

Screen Printing

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 this ink series with other inks or series.

Drying / Curing Parameters

Once the metal substrate has reached the required temperature listed in the schedule below, maintain that temperature for the appropriate time per the schedule. This will vary according to the thickness of the substrate and the specific drying equipment used. Proper cure is achieved when the ink will resist 30-50 double rubs using methyl ethyl ketone (MEK), showing no loss of gloss or degradation to the printed ink. Slight color transfer to the rubbing cloth or cotton swab is acceptable as long as the print surface retains its initial characteristics.

Temperature	Time
275°F (136°C)	15 Minutes
300°F (150°C)	8 Minutes
325°F (164°C)	6 Minutes
350°F (178°C)	4 Minutes
375°F (192°C)	3 Minutes
400°F (206°C)	2 Minutes

Processing

8900 Series may need to be thinned to achieve proper ink flow (see additives section).

Adhesion Testing
- Touch of ink surface – the ink surface should be smooth.
- Thumb twist – the ink surface should not mar or smudge.
- Scratch surface – the ink surface should resist scratching.
- 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.

Cleanup
For screen cleaning, similar products to those listed below may be used.

Screen Wash (Prior to Reclaim): Use IMS201 Premium Graphic Screen Wash or IMS203 Economy Graphic Screen Wash
Press Wash (On Press): IMS301 Premium Graphic Press Wash.

Ink Modifications

Clears / Varnishes
Mixing Clear/Metallic Clear: use to reduce the density of colors or as a clear base for specialty additives such as Metallic additives.
Overprint Clear: use to provide added surface protection and increase durability.

Additives
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 / Thinner
Use the following item(s) to reduce the viscosity of these inks. Over reduction can reduce print definition, film thickness and adversely affect cure.
Use 9050 Retarder Thinner: add up to 15%.

Gloss / Flattening Powders / Improved Slip
Use 8948 Flattening Paste to reduce gloss. Add up to 20%.

General Information
Handling
Refer to the SDS for recommendations on handling.
Wear gloves and barrier cream to prevent direct skin contact. Safety glasses are suggested in areas where ink may be splashed. If product 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 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).

Outdoor Durability Variables
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: large amounts of mixing clear or white, mixing several colors into one match, and/or mixing a small quantity of any single color
- Substrate type and age
- Mounting angle and directional orientation
- Geographical location
- Degree of air pollution
- Excessive abrasion
- Non-clear coated prints exhibit more color change and loss of gloss.

Storage / Shelf Life
Store closed containers at temperatures between 65°-78°F (18°-25°C). Storing products outside of these recommendations may shorten their shelf life.
Standard items useable for a period of at least **48 months** from the date of manufacture.

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

Standard Color Range
Based on information from our raw material suppliers, these ink products are formulated to 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 over a variety of substrates.

LF Colors
Colors with an item number containing “LF” are lead-free alternatives that replaced a lead containing color. All Nazdar manufactured inks are lead-free.

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. 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 ink. Contact Nazdar for the item number(s) and availability of special effect products or they can be found at www.nazdar.com.

Metallic Silver (aluminum), add up to: 8%
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%

Color Card Materials
The following is a list of available literature representing this ink series.
- Conventional Color Card (CARD375): shows the Standard Colors, Pantone Matching System Base Colors, and Halftone Colors.

Packaging / Availability
Contact your Nazdar distributor for product availability and offering.

Item Type	Item Number	Item (or Color) Description
Standard Colors	89LF10	Primrose Yellow
Standard Colors	89LF11	Lemon Yellow
Standard Colors	89LF12	Medium Yellow
Standard Colors	89LF13	Emerald Green
Standard Colors	89LF19	Fire Red
Standard Colors	89LF18	Scarlet Red
Standard Colors	89LF20	Brilliant Orange
Standard Colors	8921	Peacock Blue
Standard Colors	8922	Ultra Blue
Standard Colors	8924	Black
Standard Colors	8925	White
Clears / Varnishes	8926	Mixing Clear
Clears / Varnishes	8927	Overprint Clear

Standard Colors	8975	Super Opaque White
Standard Colors	8989	Red Toner
Standard Colors	89410	Yellow
Standard Colors	89411	Warm Red
Standard Colors	89417	Rubine Red
Standard Colors	89418	Rhodamine Red
Standard Colors	89422	Reflex Blue
Standard Colors	89433	Purple
Standard Colors	89440	Process Blue
Standard Colors	89441	Green
Additives	8948	Flattening Paste
Additives	9050	Retarder Thinner
Cleaners	IMS201	Premium Graphic Screen Wash
Cleaners	IMS203	Economy Graphic Screen Wash
Cleaners	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®.

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