

# Nazdar 59000 Series Enamel Plus Screen Ink

**59000 Series Enamel Plus Screen Ink is a glossy solvent-based enamel ink formulated to screen print on a wide range of hard-to-adhere-to surfaces such as glass, metal, wood and some plastics for outdoor signs and displays.**

## Substrates

Glass  
Metal  
Wood  
Some hard plastics

*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

195-280 tpi (77-110 tpcm) with a mesh opening of 50-80 um 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: 1,000 - 1,500 square feet (93-139 square meters)  
Reference [www.nazdar.com/en-us/ColorStar](http://www.nazdar.com/en-us/ColorStar) for examples of coverage calculations.

## Screen Printing

59000 Series should be thinned up to 15% to assure proper ink flow (see additives section). When using 59000 Series 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

59000 Series dries by oxidation, requiring 24-48 hours for total cure/dry. Tack free dry time is about 4-6 hours. To obtain a faster tack free surface, heat set at 180°F (83°C) for 30 minutes. Multiple layers of ink may require longer drying times than a single layer.

## Adhesion Testing

Once ink has dried and cured for 48 hours:

- 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.

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## 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): Use IMS301 Premium Graphic Press Wash

## Ink Modifications

### Clears / Varnishes

Mixing Clear / Overprint Clear: Use to reduce the density of colors and to provide added surface protection.

Gloss Roller Coating: Use 59135 Gloss Coating Varnish as a roller coat overprint clear or as a clear base for specialty additives such as metallics.

Flat Roller Coating: Use 59172 Flat Coating Varnish as a roller coat overprint clear.

### Additives

59000 Series requires thinning to assure proper flow characteristics.

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 59000 Thinning Varnish or 5560 Fast Thinner to reduce the viscosity of the 59000 Series. Add up to 15%. The 59000 Thinning Varnish may also be used to reduce ink viscosity for roller coating applications.

### Retarder

Use a 50/50 blend of 5560 Fast Thinner and 9050 Retarder to improve screen stability or to slow dry times. Add up to 15%. Reduction with retarders slows drying and can result in blocking.

### Gloss / Flattening Powders / Improved Slip

Use 59118 Flattening Paste to reduce gloss and improve slip. 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).

### 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.

Shelf life above applies to the standard ink items listed on this TDS. 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.

## 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.

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## 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.

## Transparent Colors

Transparent Colors produce clean and vibrant colors. Transparent Colors can be used as supplied, in color matches or let down with mixing clear.

## 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](http://www.nazdar.com).

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

Metallic Gold (bronze), add up to: 15%

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%

Multi-Chromatic, add up to: 10%

Phosphorescent, add up to: 40%

Fluorescents, add up to: 40%

Fluorescent colors fade quickly with exposure to ultraviolet light.

## Color Card Materials

The following is a list of available literature representing this ink series.

- Non-Standard Color Card (CARDNS) shows the Printing Colors of this ink series.
- Special Effects Color Card (CARDSPL): shows various special effect pigments mixed with clear

## Packaging / Availability

Contact your Nazdar distributor for product availability and offering.

| Item Type          | Item Number | Item (or Color) Description |
|--------------------|-------------|-----------------------------|
| Standard Colors    | 59LF102     | Fire Red                    |
| Standard Colors    | 59106       | Scarlet Red                 |
| Standard Colors    | 59111       | Black                       |
| Standard Colors    | 59112       | White                       |
| Standard Colors    | 59114       | Medium Brown                |
| Standard Colors    | 59122       | Super Opaque White          |
| Standard Colors    | 59LF124     | Brilliant Orange            |
| Standard Colors    | 59LF130     | Primrose Yellow             |
| Standard Colors    | 59LF132     | Lemon Yellow                |
| Standard Colors    | 59LF134     | Medium Yellow               |
| Clears / Varnishes | 59135       | Gloss Coating Clear         |
| Clears / Varnishes | 59140       | Overprint Clear             |
| Standard Colors    | 59LF142     | Emerald Green               |
| Standard Colors    | 59LF148     | Medium Green                |
| Standard Colors    | 59152       | Peacock Blue                |
| Standard Colors    | 59156       | Ultra Blue                  |
| Standard Colors    | 59158       | Dark Blue                   |
| Clears / Varnishes | 59172       | Flat Coating Varnish        |

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|                    |        |                             |
|--------------------|--------|-----------------------------|
| Standard Colors    | 59191  | Flat Black                  |
| Standard Colors    | 59192  | Flat White                  |
| Standard Colors    | 59204  | Bright Red                  |
| Standard Colors    | 59234  | Lf Medium Yellow            |
| Standard Colors    | 59410  | Yellow                      |
| Standard Colors    | 59411  | Warm Red                    |
| Standard Colors    | 59417  | Rubine Red                  |
| Standard Colors    | 59418  | Rhodamine                   |
| Standard Colors    | 59422  | Reflex Blue                 |
| Standard Colors    | 59440  | Process Blue                |
| Standard Colors    | 59441  | Green                       |
| Standard Colors    | 59433  | Purple                      |
| Standard Colors    | 59660  | Stop Sign Red               |
|                    |        |                             |
| Transparent Colors | 59610  | Trans Primrose Yellow       |
| Transparent Colors | 59612  | Trans Medium Yellow         |
| Transparent Colors | 59613  | Trans Green                 |
| Transparent Colors | 59618  | Trans Red                   |
| Transparent Colors | 59620  | Trans Orange                |
| Transparent Colors | 59622  | Trans Blue                  |
| Transparent Colors | 59628  | Trans Gold                  |
| Transparent Colors | 59633  | Trans Purple                |
|                    |        |                             |
| Additives          | 5560   | Fast Thinner                |
| Additives          | 9050   | Retarder                    |
| Additives          | 59000  | Thinning Varnish            |
| Additives          | 59118  | Flattening Paste            |
|                    |        |                             |
| Cleaners           | IMS201 | Premium Graphic Screen Wash |
| Cleaners           | IMS203 | Economy Graphic Screen Wash |
| Cleaners           | IMS206 | Graphic Auto 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®.

## Nazdar Ink Technologies Offices

### Nazdar Ink Technologies - World Headquarters

8501 Hedge Lane Terrace  
 Shawnee, KS 66227-3290 USA  
 Toll Free US: 866-340-3579  
 Tel: +1 913-422-2255  
 Fax: +1 913-422-2296  
 Customer Service E-mail: [NazdarOrders@nazdar.com](mailto:NazdarOrders@nazdar.com)  
 Technical Support E-mail: [TechSupport@Nazdar.com](mailto:TechSupport@Nazdar.com)

### Nazdar Limited – EMEA

Battersea Road, Heaton Mersey  
 Stockport, England SK4 3EA  
 Tel: + 44 (0)-161-442-2111  
 Fax: + 44 (0)-161-442-2001  
 EMEA Customer Service E-mail: [infoUK@nazdar.com](mailto:infoUK@nazdar.com)  
 EMEA Technical Service E-mail: [technicalservicesUK@nazdar.com](mailto:technicalservicesUK@nazdar.com)

Nazdar – Asia Pacific  
 11 Changi North Street 1  
 #03-03/04  
 Singapore 498823

## Nazdar 59000 Series Enamel Plus Screen Ink

Tel: +65 6385 4611  
E-mail: [aspac@nazdar.com](mailto:aspac@nazdar.com)