# Nazdar VF Series Flat Vinyl Screen Ink

**VF Series inks are formulated to have excellent adhesion to both rigid and flexible vinyl and some vinyl coated materials. The inks have excellent printability, opacity, fast drying and non-blocking characteristics and are recommended only for interior applications.**

## Substrates

Flexible vinyl (PVC)

**Substrate Material(s) listed below may be Limited in Adhesion** *(testing highly recommended for each print run)*
Some vinyl coated materials (PVC)

*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

150-280 tpi (60-110 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: 1,000 - 1,500 square feet (93-139 square meters)
Reference www.nazdar.com/en-us/ColorStar for examples of coverage calculations.

### Screen Printing

VF Series Inks must be thinned approximately 10% by weight prior to 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.
All colors except VF111 Black may be heat sealed. VF121 Non Arcing Black is used for heat sealing.

### Drying / Curing Parameters

Dries by solvent evaporation and jet dries at temperatures of 140 - 160°F (53 - 71°C). Good air circulation is necessary to remove the vaporized solvents. Multiple layers of ink may require longer drying times than a single layer.

### Adhesion Testing

- Touch of ink surface – the ink surface should be smooth.
- Scratch surface – the ink surface should resist scratching.
- Thumb twist – the ink surface should not mar or smudge.
- 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): Use 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.
Extender Clear: Use to reduce color strength without affecting viscosity of the ink.

### Additives
The market specific performance properties of this ink series / ink item should be acceptable for most applications without the need for additives. When required, any 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.

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Example for additives: Ink at 100g with 8% of an additive is calculated as: 100g ink + 8g additive = 108g total

### Reducer / Thinner
Use RE190 Thinner to reduce the viscosity of these inks for best printing results. Add up to 15%.

### Retarder
VF192 Retarder Use a to improve the screen stability during hot climate conditions or for slower drying. Add up to 15%.

### Thickener / Increase Viscosity
Use VF178 Sharp Printing Compound for printing fine detail, halftones and on textured surfaces.

## 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

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 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 and flow characteristics. These colors are intended to work as supplied.

### 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.
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 30%

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

| Item Type | Item Number | Item (or Color) Description |
|---|---|---|
| Standard Colors | VFLF103 | Brilliant Red |
| Standard Colors | VFLF104 | Bright Red |
| Standard Colors | VF106 | Carmine Red |
| Standard Colors | VF111 | Black |
| Standard Colors | VF112 | White |
| Standard Colors | VF114 | Brown |
| Standard Colors | VF121 | Non Arcing Black |
| Standard Colors | VF122 | Opaque White |
| Standard Colors | VFLF124 | Orange |
| Standard Colors | VFLF130 | Primrose Yellow |
| Standard Colors | VFLF132 | Lemon Yellow |
| Pantone Base Colors | VFLF134 | Medium Yellow |
| Pantone Base Colors | VFLF146 | Cyanine Green |
| Standard Colors | VF152 | Light Blue |
| Standard Colors | VF156 | Brilliant Ultra Blue |
| Standard Colors | VF159 | Permanent Blue |
| Standard Colors | VF162 | Purple |
| Standard Colors | VF164 | Cerise |
| Clears / Varnishes | VF170 | Clear |
| Clears / Varnishes | VF175 | Extender Clear |
| Standard Colors | VF410 | Yellow |
| Standard Colors | VF411 | Warm Red |
| Standard Colors | VF417 | Rubine Red |
| Standard Colors | VF440 | Process Blue |
| Standard Colors | VF422 | Reflex Blue |
| Standard Colors | VF433 | Purple |
| | | |
| Standard Colors | VF178 | Sharp Printing Compound |
| Additives | VF190 | Thinner |
| Additives | VF192 | Retarder |
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| Cleaners | IMS201 | Premium Graphic Screen Wash |

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| 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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