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

All colors except VF111 Black may be heat sealed. VF121 Non Arcing Black is used for heat sealing.

SUBSTRATES	Flexible vinyl and some vinyl coated materials.

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	150-280 tpi (60 - 10 tpcm) monofilament polyester mesh for most applications
STENCIL	Solvent resistant direct emulsions and capillary films
SQUEEGEE	70-80 durometer polyurethane squeegee
COVERAGE	1000-1500 square feet (93 – 139 square meters) per gallon depending upon ink deposit
PRINTING	The VF Series ink must be thinned approximately 10% prior to printing. (See additives section) 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 temperatures 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	VF dries by solvent evaporation and jet dries at temperatures of 140°F.-160°F. (53°C.-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.
CLEARS / VARNISHES	*Mixing Clear / Metallic Mixing Clear:* Use VF170 Mixing Clear to reduce the density of colors or as a clear base for specialty additives such as Metallics.
	Extender Base: Use VF175 Extender to reduce color strength without affecting viscosity of the ink.
ADDITIVES	All additives should be thoroughly mixed into the ink before each use. Prior to production, test any additive adjustment to the ink.
	Reducer: Use VF190 Thinner to reduce the viscosity of these inks. Add up to 15% by weight.
	Retarder: Use VF192 Retarder Thinner to improve screen stability during hot climate conditions or for slower drying. Add up to 15% by weight.
	Sharp Printing Compound: Use VF178 Sharp Printing Compound for printing fine detail, halftones and on textured surfaces.

CLEAN UP	*Screen Wash (Prior to Reclaim):* Use IMS201Premium 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.

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

ADHESION TESTING	It is imperative to check adhesion on a **cooled down** 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 and flow characteristics.

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. Pigments may settle in the container; prior to printing, thoroughly mix the ink.
	The following special effect pigments may be added to the VF inks. These pigments are available in 1-pound containers. Contact Nazdar® for the item number(s) and availability of each special effect product.
	Metallics: Silver (aluminum) - add up to 8% by weight, Gold (bronze) - 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 / Multi-Chromatic: Pearlescent and Interference pigments add up to 20% by weight, Multi-Chromatic pigments - add up to 20% by weight. See the Pearlescent, Interference, and Multi-Chromatic Technical Data Sheets for more information.
	Phosphorescents: Add up to 30% by weight.

COLOR CARD MATERIALS

The following is a list of screen printed samples available.

Conventional Color Card: shows the Standard Printing Colors

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 gallon containers.

'LF' ITEM NUMBERS

Colors with an item number containing 'LF' indicate a lead-free alternative that replaced a lead containing color. All colors listed in this document are lead-free.

Stock Number	Standard Printing Colors	Stock Number	Standard Printing Colors
VFLF103	Brilliant Red	VF152	Light Blue
VFLF104	Bright Red	VF156	Brilliant Ultra Blue
VF106	Carmine Red	VF159	Permanent Blue
VF111	Black	VF162	Purple
VF112	White	VF164	Cerise
VF114	Brown	VF410	Yellow
VF121	Non Arcing Black	VF411	Warm Red
VF122	Opaque White	VF417	Rubine Red
VFLF124	Orange	VF422	Reflex Blue
VFLF130	Primrose Yellow	VF433	Purple
VFLF132	Lemon Yellow	VF440	Process Blue
VFLF134	Medium Yellow	VF170	Clear
VFLF146	Cyanine Green		

PACKAGING	Additives/Reducers are available in gallon containers.
	Cleaners are available in gallon, 5 gallons and 55 gallon containers.

Stock Number	Additives/Reducers	Stock Number	Clean Up
VF175	Extender	IMS 301	Premium Graphic Press Wash
VF178	Sharp Printing Compound	IMS 201	Premium Graphic Screen Wash
VF190	Fast Thinner		
VF192	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.