

Nazdar NFX30 Series High Sparkle Glitter UV Screen Inks

Nazdar's NFX30 Series High Sparkle Glitter UV Screen Inks provide ready pre-mixed colors for graphic applications. The ultra-transparency of the inks results in a saturated, vibrant color that does not dull the high sparkle, glitter effect.

Substrates

- Styrene
- Rigid Vinyl
- Some Pressure Sensitive Vinyl
- Polycarbonate
- Some Acrylic
- Coated Paper
- Coated Cardstock

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

60-110 tpi (24-45 tpcm) monofilament polyester mesh for most applications. Higher mesh counts can result in filtering of the glitter flake. Lower mesh counts can result in under curing issues. See 'Cure Parameters' for more information.

Stencil

Use direct emulsions and capillary films which are solvent resistant and UV compatible.

Squeegee

70-90 durometer polyurethane squeegee.

Coverage

Estimated 500 - 900 square feet (46 - 84 square meters) per gallon depending upon ink deposit. Reference www.nazdar.com for examples of coverage calculations.

Printing

NFX30 Series is formulated to be press ready. 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.

The ink can be affected by stray UV light. Be aware of skylights, windows and overhead lights curing the ink in the screen; light filters are recommended. Leaving a container uncovered may result in the ink's surface forming a "skin", caused by reaction with ambient lighting. Keep containers covered.

Nazdar does not recommend inter-mixing of NFX30 Series with other inks besides the NFX30 Series and NFX20 Series.

Inter-Print Inks

It is recommended to use NFX30 Series High Sparkle Glitter inks as only an overprint on the substrates outlined in the 'Substrate' section. NFX30 Series High Sparkle Glitter inks can be inter-printed with:

NFX20 Series Graphic Transparent Ink

PowerPrint® 1600 UV Ink Series

PowerPrint® Plus 1800 UV Ink Series

PowerPrint® Banner 1900 UV Ink Series

4200 UV Ink Series

4000 UV Ink Series

Refer to the inter-print ink's Technical Data Sheet for processing recommendations.

Cure Parameters

NFX30 Series cures when exposed to a single medium pressure mercury vapor lamp emitting millijoules (mJ) and milliwatts (mW) of:
 170 mJ/cm² @ 600+ mW/cm² UVA

These guidelines are intended only as a starting point for determining cure parameters, which must be determined under actual production conditions. "Undercuring" the ink may result in

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poor adhesion, lower block resistance, reduced durability, and higher residual odor. "Overcuring" the ink may reduce the flexibility of the printed part and adhesion of subsequent ink layers.

To increase mJ levels, slow down the belt speed or scan speed. To increase mW levels, increase the wattage setting of the UV reactor. To optimize mJ and mW output, maintain the bulb and reflector, and ensure proper focus to the substrate.

These guidelines are representative of measurements taken using an EIT® UVICURE® Plus radiometer measuring the UVA bandwidth (320-390 nm). To obtain accurate mW readings with the UVICURE® Plus, reduce the belt speed to less than 40 ft/min.

Clears / Varnishes

Mixing Clear: Use NFX31 High Sparkle Silver Clear to reduce the density of colors.

Concentrated Colors

Concentrated Color: Use the NFX21 to NFX29 Graphic Transparent colors to increase the color saturation. The addition of the NFX21 to NFX29 Graphic Transparent Colors will decrease the sparkle glitter concentration.

Note: UV curing levels must be increased to accommodate the higher degree of color saturation; in some cases, full cure may not be achieved.

Common Performance Additives

The market specific performance properties of the NFX30 Series 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.

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

$$100\text{g ink} + 8\text{g additive} = 108\text{g total}$$

Reducer: Use RE310 UV Reducer to reduce the viscosity of these inks. Add up to 5% by weight. Over reduction can reduce print definition, film thickness and adversely affect cure.

Adhesion Promoter: Use NB80 UV Adhesion Promoter to enhance adhesion. Add up to 5% by weight. Improved adhesion will be demonstrated after 24 hours, with full cross linking in 4-7 days. Ink mixed with NB80 UV Adhesion Promoter has a 4-8 hour pot life.

Cleanup

Screen Wash (Prior to Reclaim): Use 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

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.

NFX30 items supplied 1 gallon (4/5 kilo) containers or smaller are useable for a period of at least 24 months from the date of manufacture. Inks packaged in 5 gallon or greater (20 kilo or greater) containers may have a significantly reduced shelf life. For more detail pertaining to the shelf life of Nazdar's ink products, contact Nazdar Technical Service at InkAnswers@nazdar.com or see contact listing at the end of this document.

General Information

Ink Handling

Wear gloves and barrier cream to prevent direct skin contact. Safety glasses are suggested in areas where ink may be splashed. If ink 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.

This ink series is a one-part, 100% solids UV-curable screen printing ink and does not contain N-vinyl-2-pyrrolidone (trade name V-Pyrol®).

For assistance on a wide range of important regulatory issues, consult the following Regulatory Compliance Department link at

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<http://www.nazdar.com> or contact Nazdar Ink Technologies - World Headquarters (see contact listing at the end of this document).

Adhesion Testing

Even when recommended UV energy output levels are achieved, it is imperative to check the degree of cure on a **cooled down** print:

1. 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.

Full adhesion characteristics at proper cure levels are demonstrated within 8 hours.

Processing

Finishing: Due to the heavy ink deposit of these inks, any finishing processing such as cutting through the ink film, scoring, bending, etc. should be qualified prior to any production printing.

Background Color: Due to the high transparency of the NFX30 Series High Sparkle Glitter inks, the background color will have significant effect on color.

Manufacturer's Product Offering

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.

Color Card Materials

The following is an available screen printed sample literature representing NFX30 colors.

Special Effects Color Card (CARDSPL): shows NFX30 Series screen printed.

Packaging / Availability

Contact your Nazdar distributor for product availability and offering.

Ink Items

These items are non-inventoried and made to order.

Item Number	Color	Pantone Reference
NFX31	High Sparkle Silver Clear	N/A
NFX32	High Sparkle Red	Red 032
NFX33	High Sparkle Magenta	227C
NFX34	High Sparkle Violet	2617C
NFX35	High Sparkle Blue	3005C
NFX36	High Sparkle Green	Green C
NFX37	High Sparkle Yellow	101C
NFX38	High Sparkle Orange	151C
NFX39	High Sparkle Black	Black C

Additives / Reducers

Item Number	Item Description
NB80	UV Adhesion Promoter (Liters only)
RE310	UV Reducer

Cleaners / Clean Up

Item Number	Item Description
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®.

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