Technical Data Sheet

NFX135 UV 1ST DOWN CHROME Silver UV Screen Ink

v 3 EN

Ref: v 2 EN

NFX135 UV 1st Down Chrome Silver UV screen ink is used to produce a high sheen metallic effect for graphic applications. This ink is intended to be printed directly onto the substrate, and then overprinted with transparent colors to provide a variety of special color effects.

Substrates

- Coated paper
- Most styrene
- Pressure sensitive vinyl
- Rigid vinyl

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

305-420 tpi (120-165 tpcm) with a mesh opening of 22-38 um monofilament polyester mesh for most applications.

Coarser mesh counts and/or twill weave result in heavier ink deposit requiring additional cure output.

Stencil

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

Squeegee

70-90 durometer polyurethane squeegee.

Coverage

Estimated 3,300 - 3,800 square feet (305 - 350 square meters) per gallon depending upon ink deposit. Reference www.nazdar.com for examples of coverage calculations.

Printing

NFX135 UV 1st Down Chrome Silver ink must be printed directly onto the substrate and cannot be used to print over another ink.

NFX135 UV 1st Down Chrome Silver is formulated to be press ready. Thoroughly mix the ink by hand mixing or shaker only. Power mixing can damage the silver pigment and effect the printability and performance of the ink.

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 NFX135 UV 1st Down Chrome Silver with other inks.

Cure Parameters

NFX135 UV 1st Down Chrome Silver cures when exposed to a single medium pressure mercury vapor lamp emitting output millijoules (mJ) and milliwatts (mW) of:

120-150 mJ/cm² @ 600+ mW/cm²

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 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

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the UVICURE® Plus, reduce the belt speed to less than 40 ft/min.

Over-Print Inks

NFX135 UV 1st Down Chrome ink can be over-printed with PowerPrint® 1600 UV Screen Ink Series, NFX20's Graphic Transparent Inks, and NSC UV Crystal Clear Transparent inks. Refer to the Technical Data Sheet for the over-print ink to determine its processing recommendations.

Note: NFX135 UV 1st Down Chrome Silver ink leafs slightly preventing complete adhesion to the over-printed inks.

Common Performance Additives

NFX135 is designed to be press ready, however NFX135 has a tendency to raise in viscosity over time. When required, any additives should be thoroughly mixed by hand before each use. Prior to production, test any additive adjustment to the ink. Inks containing additives should not be mixed with fresh ink.

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

100g ink + 8g additive = 108g total

Reducer: Use RE310 UV Reducer to reduce the viscosity of NFX135. Add up to 5% by weight. Over reduction can reduce print definition, film thickness and adversely affect cure.

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 product outside of these recommendations may shorten its shelf life. Ink taken from the press should not be returned to the original container; store separately to avoid contaminating unused ink.

NFX135 UV 1st Down Chrome Silver ink supplied in 1 gallon (4/5 kilo) containers is useable for a period of at least 24 months from the date of manufacture. To obtain the official shelf life letter, 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 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. Touch of ink surface – the ink surface should be smooth.
2. Thumb twist – the ink surface should not mar or smudge.
3. Scratch surface – the ink surface should resist hard 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 24 hours.

Note: NFX135 UV 1st Down Chrome ink leafs slightly; it is normal for tape to pull off the top surface of the printed ink.

Weathering / Outdoor Durability

NFX135 UV 1st Down Chrome Silver ink is not intended for outdoor applications. With the use

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of an overprint clear a maximum of 30 days outdoor durability can be expected.

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 a list of available screen printed sample literature representing NFX135 UV 1st Down Chrome Silver ink.

NFX135 Color Card ***(LIT0232):*** shows the chrome silver printed alone along with transparent colors printed over the chrome to show the special effect to the printed colors.

Packaging / Availability

Contact your Nazdar distributor for product availability and offering.

Product Offering

All items listed below are inventoried in gallon containers.

Item Number	Color
NFX135	UV 1st Down Chrome Silver

Reducer

Item Number	Item Description
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 limted to the value of the product purchased from Nazdar®.

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