NSC74, NSC75, NSC76, NSC77 Indigo® Overprint UV/UV-LED Screen Ink

NSC74, NSC75, NSC76, and NSC77 are 1-part screen printing inks are used to print over HP Indigo® digital offset prints to provide a backing color when viewed second surface or a protective clear surface when viewed first surface. These screen inks can be cured using medium pressure mercury vapor UV curing lamps or 4+ watt, 395nm UV-LED curing lamps.

Substrates

Pre-treated transparent polycarbonate (PC)
Pre-treated polyester (PET)
Pre-treated vinyl films (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.

Mesh

355-390 tpi (140-153 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

Depending upon ink deposit, the estimated coverage per gallon: 2,500 – 3,500 square feet (232 - 325 square meters)
Reference www.nazdar.com/en-us/ColorStar for examples of coverage calculations.

Screen Printing

Standard items are 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 this ink series with other inks or series.

Cure Parameters

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.

Mercury Vapor UV Curing: Standard ink cures when exposed to a single medium pressure mercury vapor lamp emitting output millijoules (mJ) and milliwatts (mW) of:

120+ mJ/cm² @ 600+ mW/cm² UVA
for clears and white
180+ mJ/cm² @ 600+ mW/cm²
for blacks
These guidelines are representative of measurements taken using an EIT® UVICURE® Plus radiometer measuring the UVA bandwidth (320-390 nm). To obtain accurate mJ readings with the UVICURE® Plus, reduce the belt speed to less than 40 ft/min.

UV-LED Curing: cures when exposed to a Phoseon FireLine 4+ watt, 385-405 nm lamp at a distance of .15 to .25 inches (4 to 6 mm). Lamps of similar performance are expected to provide the necessary output to effectively cure the ink.

Processing
Overprinting: This set of inks has been formulated to overprint Indigo® digital prints on suitably pre-treated substrates. Printers are responsible for qualifying the compatibility and performance of these inks with Indigo® inks and pre-treated substrates for the entire life cycle of the finished prints.
Use with adhesives: This set of inks is not intended to be used with most standard transfer adhesives. If adhesives are used in contact with these inks, the user is responsible for qualifying the suitability through the printed part's life cycle.

Adhesion Testing
When recommended UV energy output levels are achieved, checking the degree of cure on a **cooled down** print is imperative:
- 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.

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

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.

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).

Weathering / Outdoor Durability
Items printed with this ink not recommended for outdoor use.

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 supplied in 1-gallon (4/5 kilo) containers or smaller. Useable for a period of at least **24 months** from the date of manufacture.

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.

Packaging / Availability

Contact your Nazdar distributor for product availability and offering.

Item Type	Item Number	Item (or Color) Description
Standard Colors	NSC74	UV/UV-LED Indigo OP White
Standard Colors	NSC75	UV/UV-LED Indigo OP Clear
Standard Colors	NSC77	UV/UV-LED Indigo OP Black
Standard Colors	NSC76	UV/UV-LED Indigo OP Matte Clear
Cleaners	IMS201	Premium Graphic Screen Wash
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®.

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
Technical Support E-mail: 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
EMEA Technical Service E-mail: technicalservicesUK@nazdar.com

Nazdar – Asia Pacific
11 Changi North Street 1
#03-03/04
Singapore 498823
Tel: +65 6385 4611
E-mail: aspac@nazdar.com