

# 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
- Pre-treated polyester
- Pre-treated vinyl films

Substrate recommendations are based on common, pre-treated materials intended for use in most HP Indigo® digital offset presses. Substrate recommendations are based on use with pre-treated materials and 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

355-380 tpi (140-150 tpcm) monofilament polyester mesh with a mesh opening of 27-38 um 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 2,500 – 3,500 square feet (232 - 325 square meters) per gallon depending upon ink deposit. Reference [www.nazdar.com](http://www.nazdar.com) for examples of coverage calculations.

### Printing

This set of inks are formulated to be press ready. Thoroughly mix the ink prior to printing. Improper mixing can lead to inconsistent 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 and film thickness.

Pretest to determine optimum printing parameters for a particular set of substrate, digital ink, screen ink, press set up, 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 NSC74, NSC75, NSC76, and NSC77 inks within this range of colors are with any other inks.

### 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.

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: This set of inks cure when exposed to a single medium pressure mercury vapor lamp emitting millijoules (mJ) and milliwatts (mW) of:

120+ mJ/cm<sup>2</sup> @ 600+ mW/cm<sup>2</sup> UVA  
*for clears and white*  
180+ mJ/cm<sup>2</sup> @ 600+ mW/cm<sup>2</sup> UVA  
*for black*

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

UV Screen Ink

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

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

**UV-LED Curing:** This set of inks cure when exposed to a 4 W/cm<sup>2</sup> or greater, 395-405 nm lamp at a distance of .15 to .25 inches (4 to 6 mm).

## Performance

**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.

## 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.

Standard NSC74, NSC75, NSC76, and NSC77 items 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. To obtain the official shelf life letter, Contact Nazdar Technical Service at [InkAnswers@nazdar.com](mailto: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 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.

### Weathering / Outdoor Durability

NSC74, NSC75, NSC76, and NSC77 inks are not recommended for outdoor use.

### 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.

UV Screen Ink

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



## Packaging / Availability

Contact your Nazdar distributor for product availability and offering.

## Standard Ink Items

Standard ink items listed below are inventoried in gallon containers.

Item Number	Color
<b>NSC74</b>	UV/UV-LED Indigo OP White
<b>NSC75</b>	UV/UV-LED Indigo OP Clear
<b>NSC77</b>	UV/UV-LED Indigo OP Black

## Non-Standard Ink Items

Non-Standard ink items listed below are special order, non-inventoried products which may require additional lead time. These items are available in gallon containers.

Item Number	Color
<b>NSC76</b>	UV/UV-LED Indigo OP Matte Clear

## Cleaners / Clean Up

Item Number	Item Description
<b>IMS201</b>	Premium Graphic Screen Wash
<b>IMS203</b>	Economy Graphic Screen Wash
<b>IMS206</b>	Graphic Auto Screen Wash
<b>IMS301</b>	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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UV Screen Ink