

Nazdar NSC240's UV-LED Air Texture Clear Screen Ink

Membrane Overlay / Nameplate

UV-LED Air Texture Clear screen inks are specifically formulated to cure with 395nm, UV-LED curing systems and designed to give a decorative, first surface texture effect on polycarbonate and some pre-treated polyester films used for membrane overlay applications. Textures are available from fine to very coarse. These inks may be inter-mixed with each other to achieve a custom texture. An inert nitrogen atmosphere curing unit is not necessary for Nazdar UV-LED Air Texture Screen Inks.

Substrates

- Polycarbonate
- Some Pre-Treated Polyesters
(Pre-test ink adhesion on hard coated films)

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

Mesh counts must be selected for the coarsest texture used when inter-mixing products. Coarser mesh counts than recommended and/or twill weave result in heavier ink deposit requiring additional cure output. Finer mesh counts can result in filtering of the texture agent and can result in the ink increasing in viscosity over longer print runs.

NSC241 UV-LED Air Texture Clear:

156 -255 tpi (61-100 tpcm)

NSC247 UV-LED Air Texture Fine:

195 -355 tpi (77-140 tpcm)

NSC248 UV-LED Air Texture Medium:

195 -305 tpi (77-120 tpcm)

NSC249 UV-LED Air Texture Coarse:

156 -255 tpi (61-100 tpcm)

Stencil

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

Squeegee

70-90 durometer polyurethane squeegee.

Coverage

Estimated 1,500 – 3,000 square feet 140 - 280 square meters) per gallon depending upon ink

deposit. Reference www.nazdar.com for examples of coverage calculations.

Printing

NSC240's UV-LED Air Texture Clears are formulated to be press ready. Thoroughly mix the ink prior to printing. Improper mixing can lead to inconsistent texture effect 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 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 NSC240's UV-LED Air Texture Clears with other inks. NSC240's UV-LED Air Texture Clears can be mixed with each other to produce tailored effects.

Cure Parameters

NSC240's UV-LED Air Texture Clears cure when exposed to a Phoseon FireLine 4+ watt, 395-405 nm lamp at a distance of .15 to .25 inches (4 to 6 mm). Alternative lamp models and manufacturer brands of similar performance are expected to provide the necessary output to effectively cure the ink.

These guidelines are intended only as a starting point for determining cure parameters, which must be determined under actual production

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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.

Common Performance Additives

The market specific performance properties of the NSC240's UV-LED Air Texture Clears 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 RE301 UV Reducer to reduce the viscosity of these inks. Add up to 10% by weight. Over reduction can reduce the texture effect 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 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 NSC240's UV-LED Air Texture Clears that are 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. 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 not be tacky.
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.

Full adhesion characteristics at proper cure levels are demonstrated within 24 hours.

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.

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Packaging / Availability

Contact your Nazdar distributor for product availability and offering.

Ink Items

The items listed below are considered non-Standard inks and are special order, non-inventoried items which may require additional lead time. These items are available in gallon containers.

Item Number	Color
NSC241	UV-LED Air Texture Clear
NSC247	UV-LED Air Texture Fine
NSC248	UV-LED Air Texture Medium
NSC249	UV-LED Air Texture Coarse

Additives / Reducers

Item Number	Item Description
RE301	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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