

Nazdar NSC340s Durable UV Air Texture Clears

NSC340s Durable UV Air Texture Clears have been specifically formulated to provide higher outdoor durability compared to Nazdar NSC40 thru NSC50 Indoor Air Texture Clears. They cure with 385-405 nm, UV-LED curing systems or with traditional mercury vapor curing. NSC340s Durable UV Air Texture Clears provide a decorative, first surface texture effect on durable polycarbonate and some pre-treated polyester films.

Substrates

Polycarbonate (PC)
 Top coated / Print treated polyester (PET)

Notes & Cautions

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

Air Textures Cross Comparison

The following table provides a comparison of the indoor UV Air Textures and the UV/UV-LED Durable Air Textures with regards to the printed texture. The appearance, clarity and texture does not match exactly from product to product.

	UV Indoor	UV/UV-LED Outdoor
Very Fine	NSC47	NSC347
Fine	NSC40, NSC41	NSC341
Medium	NSC48	NSC348
Coarse	NSC49	NSC349
Very Coarse	NSC50	NSC350

Mesh

Mesh counts must be selected for the coarsest texture used when inter-mixing products. Coarser, more open 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.

NSC347 Very Fine	280 -355 tpi (110-140 tpcm)
NSC341 Fine	280 -355 tpi (110-140 tpcm)
NSC348 Medium	230 -305 tpi (90-120 tpcm)
NSC349 Coarse	195 -305 tpi (77-120 tpcm)
NSC350 Very Coarse	156 -230 tpi (61-90 tpcm)

Stencil

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

Squeegee

70-90 durometer polyurethane squeegee.

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.

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.

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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.

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.

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:

200+ mJ/cm² @ 800+ mW/cm²

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

Ink Modifications

Additives

The market specific performance properties of this ink series / ink item 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: 100g ink + 8g additive = 108g total

Reducer / Thinner

Use the following item(s) to reduce the viscosity of these inks. Over reduction can reduce print definition, film thickness and adversely affect cure.

RE301 UV Reducer: add up to 10%

Gloss / Flattening Powders / Improved Slip

Matting Agent: Use the SIPI556 Texture Matting Agent 127 to reduce the gloss, sheen and transparency of the Very Fine, Fine and Medium textures. Add up to 15%.

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).

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Weathering / Outdoor Durability

Properly cured, NSC340s have been formulated is expected to provide **3+ years** outdoor durability when mounted vertically in the Central U.S.A. This is based on internal testing using accelerated weathering. Note: acceptable weathering was determined by the consistency of gloss over time. The polycarbonate (PC) substrate shows signs of yellowing over time; the ink + substrate showed significantly less yellowing over time indicating that the texture coating protected the PC substrate to a significant degree. In addition, the accelerated weathering with respect to gloss consistency was significantly better with the NSC340s Durable UV Air Texture Clears compared to the NSC40-NSC50. The degree of acceptable outdoor durability will need to be fully qualified by the end user.

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.

Shelf life above applies to the standard ink items listed on this TDS. To obtain the shelf life for special inks and additives, contact Nazdar Customer Service or Nazdar Technical Service. See contact listing at the end of this document.

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
UV Air Texture Clears	NSC347	UV Durable Air Texture Very Fine
UV Air Texture Clears	NSC341	UV Durable Air Texture Fine
UV Air Texture Clears	NSC348	UV Durable Air Texture Medium
UV Air Texture Clears	NSC349	UV Durable Air Texture Coarse
UV Air Texture Clears	NSC350	UV Durable Air Texture Very Coarse
Additives	RE301	UV Thinner
Additives	SIPI556	Texture Matting Agent 127
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®.

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