2600 Series LED Graphic Screen Ink is formulated to cure using a LED output source at the 395 nanometers. This ink is for point of sale / point of purchase graphic applications on a wide range of substrates used for indoor and outdoor advertising.

The use of LED curing systems rather than traditional mercury vapor curing units reduces energy costs, reduces heat within the curing process, and provides significantly longer lamp life.

Substrates
- Styrene
- Most rigid and flexible vinyl
- Static cling vinyl
- Rigid and flexible treated polyethylene
- Rigid and flexible treated polypropylene
- Treated fluted polypropylene
- PETG
- Coated paper
- Coated card stock
- Some acrylic

(The surface tension for polyethylene and polypropylene should be at or above 44 dyn/cm)

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
355-420 tpi (140-165 tpcm) with a mesh opening of 22-38 um monofilament polyester mesh for most applications.
305-355 tpi (120-140 tpcm) monofilament polyester mesh can be used for specialty applications with the mesh opening appropriate to the effect (i.e. pearlescents, aluminums, etc.).

Coarser mesh counts and/or twill weave result in heavier ink deposit and may require 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 3,200 - 4,200 square feet (295 - 390 square meters) per gallon depending upon ink deposit. Reference www.nazdar.com for examples of coverage calculations.

Printing
2600 Series LED Graphic Screen Ink is 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 of 2600 Series LED Graphic Screen Ink with other inks besides the 2600 Series LED Graphic Screen Ink.

Cure Parameters
2600 Series LED Graphic Screen Ink cures when exposed to an LED curing unit. Requirements:
- 4 w/cm2 or higher cure unit
- 395 nanometer wavelength
- At or less than 4mm distance from substrate to cure unit
- Belt speed at or less than 50-100 ft/min (15-30 m/min) depending on color
It is suggested to expose the print to heat for 1-2 seconds prior to curing to increase the speed of curing. 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, and higher residual odor.

**Clears / Varnishes**

*Mixing Clear:* Use 2626 Mixing Clear to reduce the density of colors.

*Overprint Clear:* Use 2627 Overprint Clear to provide added surface protection and increase durability.

**Common Performance Additives**

The market specific performance properties of the 2600 Series LED Graphic Screen Ink 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:

\[ 100g \text{ ink} + 8g \text{ additive} = 108g \text{ total} \]

*Reducer:* Use RE315 UV Reducer to reduce the viscosity of these inks. Add up to 10% by weight. Over reduction can reduce print definition, film thickness and adversely affect cure.

*Adhesion Promoter:* Use NB80 UV Adhesion Promoter to enhance adhesion. Add up to 5% by weight. Improved adhesion will be demonstrated within 8-24 hours, with full cross linking in 4-7 days. Ink mixed with NB80 UV Adhesion Promoter has a 4-8 hour pot life.

**Cleanup**

*Screen Wash (Prior to Reclaim):* Use IMS201 Premium Graphic Screen Wash, IMS203 Economy Graphic Screen Wash, or IMS206 Graphic Auto Screen 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 2600 Series LED Graphic Screen Inks supplied 1 gallon (4 to 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-LED 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
At full strength and properly cured, 2600 Series LED Graphic Screen Inks are formulated to provide 2 years outdoor durability when mounted vertically in the Central U.S.A. The use of 2627 Overprint Clear increases outdoor durability. Outdoor durability cannot be specified exactly. Slight color change and loss of gloss should be expected. Variables affecting a printed part’s durability include:

- Ink film thickness and degree of curing
- Color formulation:
  - Large amounts of mixing clear or white
  - Mixing several colors into one match
  - Mixing a small quantity of any single color
- Substrate type and age
- Mounting angle and directional orientation
- Geographical location
- Degree of air pollution
- Excessive abrasion
- Non-clear coated prints exhibit more color change and loss of gloss

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.

Halftone Colors
*Halftone Extender Base* is used to reduce the density of any of the halftone colors.

*Standard Halftone Colors* are formulated with hues and densities common to the graphic industry.

Standard Printing Colors
Standard Printing Colors have excellent opacity and flow characteristics. These colors are intended to work as supplied.

Pantone Matching System® Base Colors
Pantone Matching System Base Colors are used to simulate the Pantone® Formulation Guide. These inks are press ready, can be used in matches to achieve Pantone color simulations, or let down with mixing clear. ColorStar® Color Management System software uses Pantone Matching System Base Colors to match Pantone colors. Blend formulations are also available at www.nazdar.com using ColorStar On-Line.

**360 Series Colors:** 26360-26369 colors are formulated to have no white or opaque pigments. This allows the colors to be more vibrant and allows for a better match of intense and darker colors.

Special Effect Pigments
When inks are to be printed with a special effect color, all ink layers must be evaluated for intercoat adhesion before proceeding with the production run. To maximize intercoat adhesion, specialty colors should be printed as late as possible in the print sequence.

Pigments may settle in the container; prior to printing, thoroughly mix the ink.

The following special effect pigments may be added to 2600 Series LED Graphic Screen Ink. Contact Nazdar for the item number(s) and availability of special effect products. Technical Data Sheets for each of the following special effect pigments can be found at www.nazdar.com.

*Metallic Silver (aluminum):* Add up to 8% by weight.

*Metallic Gold (bronze):* Add up to 15% by weight.

Chemical reactions in metallic inks may result in viscosity, color and printability changes over time; due to this, mix only enough metallic ink to be used the same day.

*Pearlescent / Interference:* Add up to 20% by weight.

*Multi-Chromatic:* Add up to 10% by weight.

*Phosphorescent:* Add up to 30% by weight.
Technical Data Sheet

Nazdar 2600 LED Graphic Screen Ink

**Fluorescent**: Add up to 30% by weight. Fluorescent colors fade quickly with exposure to ultraviolet light. This includes outdoor exposure as well as UV reactor exposure.

**Color Card Materials**
The following is a list of available screen printed sample literature representing 2600 Series LED Graphic Screen Ink.

**UV Color Card (CARDUV)**: shows the Standard Printing Colors, Pantone Matching System Base Colors, and Halftone Colors.

**Special Effects Color Card (CARDSPL)**: shows various special effect pigments mixed with clear.

**Packaging / Availability**
Contact your Nazdar distributor for product availability and offering.

**Standard Ink Items**
Standard ink items listed below are inventoried in gallon containers.

<table>
<thead>
<tr>
<th>Item Number</th>
<th>Color</th>
</tr>
</thead>
<tbody>
<tr>
<td>26HTMK</td>
<td>Halftone Magenta</td>
</tr>
<tr>
<td>26HTY</td>
<td>Halftone Yellow</td>
</tr>
<tr>
<td>26HTB</td>
<td>Halftone Black</td>
</tr>
</tbody>
</table>

**Standard Printing Colors**

<table>
<thead>
<tr>
<th>Item Number</th>
<th>Color</th>
</tr>
</thead>
<tbody>
<tr>
<td>2610</td>
<td>Primrose Yellow</td>
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<tr>
<td>2619</td>
<td>Fire Red</td>
</tr>
<tr>
<td>2626</td>
<td>Mixing Clear</td>
</tr>
<tr>
<td>2627</td>
<td>Overprint Clear</td>
</tr>
<tr>
<td>2678</td>
<td>High Intensity White</td>
</tr>
<tr>
<td>2679</td>
<td>High Intensity Black</td>
</tr>
</tbody>
</table>

**Pantone Matching System® Base Colors**

<table>
<thead>
<tr>
<th>Item Number</th>
<th>Color</th>
</tr>
</thead>
<tbody>
<tr>
<td>26358</td>
<td>Tinting White</td>
</tr>
<tr>
<td>26359</td>
<td>Tinting Black</td>
</tr>
<tr>
<td>26360</td>
<td>Orange</td>
</tr>
<tr>
<td>26361</td>
<td>Yellow</td>
</tr>
<tr>
<td>26362</td>
<td>Warm Red</td>
</tr>
<tr>
<td>26363</td>
<td>Rubine Red</td>
</tr>
<tr>
<td>26364</td>
<td>Rhodamine Red</td>
</tr>
</tbody>
</table>

**Additives /Reducers**

<table>
<thead>
<tr>
<th>Item Number</th>
<th>Item Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>RE315</td>
<td>UV Reducer</td>
</tr>
</tbody>
</table>

**Cleaners / Clean Up**

<table>
<thead>
<tr>
<th>Item Number</th>
<th>Item Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>IMS201</td>
<td>Premium Graphic Screen Wash</td>
</tr>
<tr>
<td>IMS203</td>
<td>Economy Graphic Screen Wash</td>
</tr>
<tr>
<td>IMS206</td>
<td>Graphic Auto Screen Wash</td>
</tr>
<tr>
<td>IMS301</td>
<td>Premium Graphic Press Wash</td>
</tr>
</tbody>
</table>

**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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