Amplifi “AMP” UV Ink

Gloss UV ink for high density polyethylene sheet and banner, polystyrene, polypropylene and corrugated plastics

Amplifi AMP UV Ink Features
The main features are:

- Press Ready
- Fast Cure Speeds
- Excellent Block Resistance
- Superior Water Resistance
- Good finishing properties – cutting, creasing, folding

- Excellent Flexibility and Intercoat Adhesion
- Superior Printability for Large Format Work
- Very Wide Adhesion Range
- Identical Pigmentation has been used for Amplifi AMP & LFI SMS toners for blended color consistency

THINNING
Stir well before every use. Amplifi AMP inks are supplied in a pressready condition for most printing applications. For certain printing conditions it may be necessary to thin slightly (3-5% with AMP-TH Thinner).

MESH
Amplifi AMP prints and cures well through 355-380 (140 to 150/cm) plain weave monofilament polyester. Pigment used in AMP-009 Dense Black may increase mesh degradation. For optimum flexibility, every endeavor should be made to minimize ink film thickness.

STENCILS
Stencil materials must be solvent resistant and produce a thin film stencil (3-6 microns of emulsion over mesh). Dirasol SuperCoat 916 emulsion is recommended to give the highest print quality, minimize deposit variables, and improve economy.
CURING
Ultraviolet curable inks are dependent on a high dosage of intense ultraviolet light in a spectral range between 250 and 360 nanometers to initiate cure. Light energy must penetrate the entire ink layer to achieve proper cure and ink performance.

If under-cure is experienced with any color, demonstrated through a wet film or loss of gloss, it is usually due to excessive ink deposit. To correct this, the mechanics, such as mesh, squeegee, color density, belt speed, or the amount of UV energy, must be changed.

Reduction of color density is easily achieved by letting the color down with MX (Mixing Clear) until proper cure is obtained.

Adhesion should be at least 80% immediately out of the reactor with final adhesion developing in two to four hours. If total cure on a given substrate with a specific color needs to be established, the piece should be passed through the reactor one or two more times. This will usually simulate final adhesion.

COVERAGE
Standard line colors should yield a coverage of 2,800 to 3,500 square feet/gallon (64 to 80 m²/liter) depending on film thickness.

WASH UP
Wash up on press with Xtend™ press washes and after the production run with Xtend™ ink degradents.

COLOR AVAILABILITY
The Amplifi standard color range includes the nine base Seritone Matching System (SMS) colors, standard colors, fluorescent colors, half-tone colors and extended life colors.

PRE-PRODUCTION TEST
Amplifi AMP has been formulated to adhere to most polyethylene and some polypropylene substrates with surface tension levels of 38 dyne/cm or higher. However, it is strongly recommended that all substrates be tested before use as supposedly similar substrates can vary between different manufacturers and even between different batches from the same manufacturers. Certain plastics may be impregnated with lubricants which, like plasticizer migration, may impair adhesion and block resistance, even a considerable period after printing. Other plastics can become brittle or caused to curl after printing.

END-USER MUST DETERMINE SUITABILITY OF THIS PRODUCT FOR THE INTENDED USE PRIOR TO PRODUCTION.

OUTDOOR USE
Accelerated weathering tests indicate that Amplifi (AMP) prints exhibit an exterior life of up to two years in a temperate climate, with the exception of AMP-114, 121, 164, HTM, HTY, IHM, IHY, where color deterioration was evident within the two years time frame. Color matches intended for outdoor use over 120 days should not contain AMP-114, 121, 164, HTM, HTY, IHM or IHY. Use AMP-814, 821, 864, PHTM, PHTY, PIHM or PHTY for exterior life of up to two years. Some rigid fluted stocks degrade rapidly in high humidity and sun exposure environments. To optimize ink adhesion under these conditions, add 3-5% by weight PN-WRA. Once catalyzed, the ink has a four to six hour pot life.

The AMP and LFI fluorescent inks are not recommended for outdoor use. Most fluorescent pigments will begin to fade immediately when exposed to direct sunlight. When exposed to external elements or direct sunlight, these pigments tend to lose all color within 4 weeks.

THE SERITONE MATCHING SYSTEM
The Seritone Matching System has been designed to enable printers to readily simulate PANTONE® and most other colors in-house. The system consists of nine SMS base colors, each of which has been selected for its cleanliness of tone and suitability for intermixing. Using the SMS base colors plus Shading Black, Tinting White and Mixing Clear, almost any color can be produced.

THE FUJIFILM GREEN POLICY
We at Fujifilm believe that “sustainable development” of the Earth, mankind, and companies in the 21st century is an issue that must be addressed with the highest priority. As a socially responsible corporation, we actively undertake corporate activities with our environmental values in mind. We strive to be a dedicated steward of the environment and assist our customers and corporate partners in doing the same.
STANDARDS HALFTEONE COLORS
 Amplifi AMP standard halftone colors comply with the ISO 2846 color standard. ISO 2846 establishes specifications for color and transparency of four color process ink for four-color printing. Amplifi AMP halftone inks are ISO 2846 compliant as recommended when using the G7 color process control method. The densities are slightly higher than SWOP (Specification Web Offset Publication) under most conditions and, therefore, offer scope for adjustment with the addition of halftone extender base. Amplifi AMP halftone inks print with a superior low dot profile and hold the dot structure over long press runs.

INTENSE HALFTEONE COLORS
 Amplifi AMP intense halftone colors are considerably higher in density than “SWOP” standards. Reduction of color density is easily achieved by letting down the color with AMP-HTX for “AMP” Halftones (Halftone Base) until proper density is obtained.

THINNERS/MODIFIERS
 Amplifi AMP colors are supplied at a press ready viscosity for most printing applications. It may be necessary to thin slightly (3%-5%) with AMP-TH for cylinder presses or special applications. Amplifi AMP Mixing Clear (AMP-MX) may be used to reduce the strength of a color with minimal effect on viscosity. When printing on low dyne or questionable substrate an addition of PN-WRA may be necessary to achieve proper adhesion. PN_WRA should be added 3% to 5% by weight, and once mixed, has a pot life of four to six hours. Unused ink with PN-WRA should be properly disposed of as outlined in the SDS.

STORAGE
 Containers should be tightly closed immediately after use. At the end of long printing runs, surplus ink from the screen should be disposed of. Amplifi AMP inks and reducers should not be stored in direct sunlight or extreme temperatures. Refer to Safety Data Sheet (SDS) for materials and conditions to be avoided. In the interest of maximum shelf life, storage temperatures should be between 50°F (10°C) and 77°F (25°C). When stored under these conditions the maximum shelf life is shown by the use by dates, which are clearly marked on all ink containers.

High temperature storage/shipment of prints may have an adverse effect on block resistance.

SAFETY AND HANDLING
 Refer to SDS for safety, handling, waste disposal and regulatory information. All colors have been formulated to contain no pigments and heavy metals content can be obtained from an independent laboratory.

The information and recommendations contained in this Technical Data Sheet, as well as technical advice otherwise given by representatives of our Company, whether verbally or in writing, are based on our present knowledge and believed to be accurate. However, no guarantee regarding their accuracy is given as we cannot cover or anticipate every possible application of our products and because manufacturing methods, printing stocks and other materials vary. For the same reason our products are sold without warranty and on condition that users shall make their own tests to satisfy themselves that they will meet fully their particular requirements. Our policy of continuous product improvement might make some of the information contained in this Technical Data Sheet out of date and users are requested to ensure that they follow current recommendations.
Blending Satin and Matte Version of the AMPLIFI inks

**Background:** There are a number of factors that can affect gloss measurement/level of a print. These include film weight, application method, cure level, substrate, color match variations (blends vs. single ink colors) and viewing angle different than the standard 60°. Variations of gloss can occur when using the same ink under different conditions.

Years of experience have shown that printers are most efficient and have greater control when blending satin and matte versions in their print production ink room. Ink originally manufactured to be Satin or Matte will change in the container over time.

**Gloss Expectations:** The following guidelines are given to achieve desired satin or matte gloss levels with AMPLIFI screen ink. All measurements made with a 60° gloss meter on styrene material via a 355.34 PW mesh.

- **Satin Gloss** = 30 - 50%
- **Matte Gloss** = Less than 25%

The following table provides instructions for screen printers to create a matte and satin finish with the addition of “PFS26568 UV Flattening Paste.” Remember, factors listed above that will impact gloss level.

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<tr>
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<tbody>
<tr>
<td>Addition %</td>
<td>5%</td>
<td>10%</td>
<td>15%</td>
<td>20%</td>
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</tbody>
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**AMP & LFI Substrate Performance**

<table>
<thead>
<tr>
<th>Graphic Printing Substrates</th>
<th>AMP</th>
<th>LFI</th>
</tr>
</thead>
<tbody>
<tr>
<td>Coroplast</td>
<td>YES</td>
<td>NO</td>
</tr>
<tr>
<td>Economy Polyolefin Banner Material (Polypropylene / Polyethylene)</td>
<td>YES</td>
<td>NO</td>
</tr>
<tr>
<td>Linear Polyethylene Treated</td>
<td>YES</td>
<td>NO</td>
</tr>
<tr>
<td>Linear Polypropylene Treated</td>
<td>YES</td>
<td>NO</td>
</tr>
<tr>
<td>PE Banner (polyethylene)</td>
<td>YES</td>
<td>NO</td>
</tr>
<tr>
<td>ABS</td>
<td>YES</td>
<td>YES</td>
</tr>
<tr>
<td>Card Stock (test LFI, preferred for some finishing applications)</td>
<td>YES</td>
<td>YES</td>
</tr>
<tr>
<td>Expanded PVC</td>
<td>YES</td>
<td>YES</td>
</tr>
<tr>
<td>PET – Polyester (polyethylene terephthalate) (e)</td>
<td>YES</td>
<td>YES</td>
</tr>
<tr>
<td>PETG - Polyester (polyethylene terephthalate glycol) (g)</td>
<td>YES</td>
<td>YES</td>
</tr>
<tr>
<td>Polycarbonate* Application Dependent</td>
<td>YES</td>
<td>YES</td>
</tr>
<tr>
<td>Polystyrene</td>
<td>YES</td>
<td>YES</td>
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<tr>
<td>Pressure Sensitive Vinyl</td>
<td>YES</td>
<td>YES</td>
</tr>
<tr>
<td>PVC - Polyvinyl Chloride (rigid/matte)</td>
<td>YES</td>
<td>YES</td>
</tr>
<tr>
<td>Static Cling Vinyl (Vinyl - electrostatic film)</td>
<td>NO</td>
<td>YES</td>
</tr>
<tr>
<td>Vinyl Banner</td>
<td>NO</td>
<td>YES</td>
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</tbody>
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