

Amplifi "AMP" UV Ink

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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.

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

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 degreagents.

COLOR AVAILABILITY

The Amplifi standard color range includes the nine base Seritone Matching System (SMS) colors, standard colors, fluorescent colors, halftone 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 PIHY 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.

*Pantone, Inc's check-standard trademark for reproduction and color reproduction.

SPECIFICATIONS: AMPLIFI AMP UV INK

Media Type

- ▶ High Density Linear Polyethylene Sheet
- ▶ Coroplast® Cor-X®, and other Fluted Polyethylene/ Polypropylene Stocks
- ▶ Polystyrene
- ▶ Many Rigid Plastics
- ▶ Polyethylene Banner

Light energy level requirements vary from ink to ink and are dependent on a number of factors:

- ▶ Ink chemistry
- ▶ Color
- ▶ Ink deposit (film weight)
- ▶ Substrate being printed
- ▶ Halftone or line color

For Amplifi the following guidelines are recommended:

AMP Halftone Inks – 380.34PW Mesh

- ▶ Minimum millijoules-100 mJ/cm²-measured at the UVA component
- ▶ Minimum milliwatts-500 mW/cm²-measured at the UVA component

Line Colors-355.34PW Mesh

- ▶ Minimum millijoules-125 mJ/cm²-measured at the UVA component
- ▶ Minimum milliwatts-500 mW/cm²-measured at the UVA component

For Amplifi the following guidelines are recommended:

AMP-026 White, AMP-009 Dense Black -355.34PW Mesh

- ▶ Minimum millijoules- 150 mJ/cm²-measured at the UVA component
- ▶ Minimum milliwatts-500 mW/cm²-measured at the UVA component



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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.

STANDARD HALFTONE 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 HALFTONE 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 which contain lead or other heavy metals. These products are formulated to meet CONEG Packing Legislation and ROHS Electrical and Electronic Equipment Directive. If necessary, certification of lead 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.

SPECIFICATIONS: AMPLIFI AMP UV INK

Seritone Matching

System Colors

- ▶ 900114956 AMP-064 Lemon Yellow GS
- ▶ 900114936 AMP-066 Yellow RS
- ▶ 900114952 AMP-814 EL Orange
- ▶ 900114953 AMP-821 EL Red YS
- ▶ 900114939 AMP-127 Violet
- ▶ 900114954 AMP-864 EL Red BS
- ▶ 900114991 AMP-165 Magenta
- ▶ 900114992 AMP-230 Blue GS
- ▶ 900114993 AMP-325 Green

Standard Colors

- ▶ 900130501 AMP-009 Dense Black* (may increase mesh degradation)
- ▶ 900130473 AMP-026 Brilliant White*
- ▶ 900115787 AMP-123 Medium Yellow
- ▶ Brilliant Orange make with 25% AMP-814 & 75% AMP-821
- ▶ 900114998 AMP-141 Fire Red
- ▶ 900130334 AMP-143 Fire Red BS
- ▶ 900115785 AMP-155 Rubine Red
- ▶ 900115789 AMP-180 Warm Red
- ▶ 900115783 AMP-190 Process Blue
- ▶ 900129544 AMP-200 Peacock Blue
- ▶ 900114999 AMP-205 Reflex Blue
- ▶ 900115784 AMP-210 Ultra Blue
- ▶ 900115782 AMP-221 Emerald Green
- ▶ 900130246 AMP-233 Blue RS
- ▶ 900114996 AMP-301 Black
- ▶ 900114997 AMP-311 White
- ▶ 900114994 AMP-TW Tinting White
- ▶ 900114995 AMP-SB Shading Black
- ▶ 900114943 AMP-MX Mixing Clear

* Verify correct curing, 150 mJ/cm² recommended

Fluorescent Colors*

- ▶ 900130335 AMP-600 FL Chartruese
- ▶ 900130336 AMP-610 FL Orange Yellow
- ▶ 900130348 AMP-620 FL Blaze Orange
- ▶ 900130349 AMP-630 FL Orange Red
- ▶ 900130350 AMP-640 FL Rocket Red
- ▶ 900130361 AMP-650 FL Pink
- ▶ 900130362 AMP-660 FL Green
- ▶ 900130363 AMP-670 FL Blue

* Due to the composition of fluorescent inks, they are made to order and for best results should be used promptly.

Halftone Colors

- ▶ 900113977 AMP-HTC Halftone Cyan
- ▶ 900114944 AMP-PHTM Premium HT Magenta
- ▶ 900114945 AMP-PHTY Premium HT Yellow
- ▶ 900113980 AMP-HTK Halftone Black
- ▶ 900113981 AMP-HTX Halftone Base

Intense Halftone Colors

- ▶ 900113982 AMP-IHC Intense HT Cyan
- ▶ 900114946 AMP-PIHM Prem. Intense HT Magenta
- ▶ 900114947 AMP-PIHY Prem. Intense HT Yellow
- ▶ 900113985 AMP-IHK Intense HT Black

Reducers/Modifiers

- ▶ 900115790 AMP-TH/1 Thinner
- ▶ 900097004 PFS26568 Flattening Paste

Gloss Overprint Clear

- ▶ 900066706 GSG-GOP Gloss OP Clear

Optional Short Term Graphic Economy Versions

(can be used for Color matches and finished prints intended for outdoor use less than 120 days)

- ▶ 900114937 AMP-114 Orange
- ▶ 900114938 AMP-121 Red YS
- ▶ 900114940 AMP-164 Red BS
- ▶ 900113978 AMP-HTM Halftone Magenta
- ▶ 900113979 AMP-HTY Halftone Yellow
- ▶ 900113983 AMP-IHM Intense HT Magenta
- ▶ 900113984 AMP-IHY Intense HT Yellow



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.

Target Gloss Level:	45 - 50 Gloss	30 - 35 Gloss	20 - 25 Gloss	15 - 20 Gloss
Addition %:	5%	10%	15%	20%

AMP & LFI Substrate Performance

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