

# Amplifi "LFI" UV Ink

UV ink for  
multiple  
P.O.P.  
substrates

## Amplifi "LFI" UV Ink

### THINNING

Stir well before every use. Amplifi LFI 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 LFI-TH Thinner).

### MESH

Amplifi LFI prints and cures well through 355-380 (140 to 150/cm) plain weave monofilament polyester. Pigment used in LFI-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.

### Amplifi LFI UV Ink Features

#### The main features are:

- Wide Adhesion Range
- Excellent Adhesion to Highly Plasticized Vinyls
- Fast Cure Speed
- Extreme Water Resistance
- Ideal for In-Line Presses
- Superior Flexibility
- Low Viscosity Rheology
- Excellent Block Resistance
- Highly Flexible including Multi-Layer Applications
- Identical Pigmentation has been used for Amplifi LFI & AMP 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 m<sup>2</sup>/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, transparent colors, halftone colors and extended life colors.

**TRANSPARENT COLORS**

Amplifi LFI transparent colors are designed for overprinting on short term metallic and clear materials.

**POST PRINT RECOMMENDATIONS**

Success of post printing processes such as hemming, sewing, and/or grommeting is very ink film thickness related. Thin ink

films (10 to 15 micron) are more flexible and will, therefore, be more successful in these finishing processes.

**PRE-PRODUCTION TEST**

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 manufacturer. Certain other 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 (LFI) prints exhibit an exterior life of up to two years in a temperate climate, with the exception of LFI-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 LFI-114, 121, 164, HTM, HTY, IHM or IHY. Use LFI-814, 821, 864, PHTM, PHTY, PIHM or PIHY for exterior life of up to two years.

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 LFI UV INK****Media Type**

- ▶ Polystyrene
- ▶ Coated Paper and Board Stocks
- ▶ Premium & Economy Vinyl Banner Materials
- ▶ Most Static Cling Vinyls
- ▶ Pressure Sensitive Vinyls

**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:**

**"LFI" Halftone Inks – 380.34PW Mesh**

- ▶ Minimum millijoules–100 mJ/cm<sup>2</sup>–measured at the UVA component
- ▶ Minimum milliwatts-500 mW/cm<sup>2</sup>–measured at the UVA component

**Line Colors-355.34PW Mesh**

- ▶ Minimum millijoules- 125 mJ/cm<sup>2</sup>–measured at the UVA component
- ▶ Minimum milliwatts-500 mW/cm<sup>2</sup>–measured at the UVA component

**For Amplifi the following guidelines are recommended:**

**LFI-026 White, LFI-009 Dense Black, LFI-300 SO Jet Black –355.34PW Mesh**

- ▶ Minimum millijoules- 150 mJ/cm<sup>2</sup>–measured at the UVA component
- ▶ Minimum milliwatts-500 mW/cm<sup>2</sup>–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 LFI 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 LFI 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 LFI halftone inks print with a superior low dot profile and hold the dot structure over long press runs

## INTENSE HALFTONE COLORS

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

## METALLIC POWDERS

Metallic powders may be mixed with Amplifi LFI Mixing Clear (LFI-MX). The recommended mixing ratios are 8% by weight of silver powder and 20% of gold powder. Due to the possibility of chemical changes after mixing, it is highly recommended that metallic shades be mixed daily.

## THINNERS/MODIFIERS

Amplifi LFI colors are supplied at a press ready viscosity for most printing applications. It may be necessary to thin slightly (3%-5%) with LFI-TH for special applications. Amplifi LFI Mixing Clear (LFI-MX) may be used to reduce the strength of a color with minimal effect of viscosity. Flattening paste (PFS26568) may be used to a maximum of 20% as needed.

## 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 LFI 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.

## 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 LFI UV INK

#### Seritone Matching System Colors

- ▶ 900113973 LFI-064 Lemon Yellow GS
- ▶ 900113974 LFI-066 Yellow RS
- ▶ 900115485 LFI-814 EL Orange
- ▶ 900115486 LFI-821 EL Red YS
- ▶ 900114988 LFI-127 Violet
- ▶ 900115487 LFI-864 EL Red BS
- ▶ 900114990 LFI LFI-165 Magenta
- ▶ 900113975 LFI-230 Blue GS
- ▶ 900113976 LFI-325 Green

#### Standard Colors

- ▶ 900130472 LFI-009 Dense Black\* (may increase mesh degradation)
- ▶ 900130520 LFI-026 Brilliant White\*
- ▶ 900115719 LFI-123 Med Yellow
- ▶ Brilliant Orange make with 25% LFI-814 & 75% LFI-821
- ▶ 900115005 LFI-141 Fire Red
- ▶ 900115929 LFI-155 Rubine Red
- ▶ 900115773 LFI-180 Warm Red
- ▶ 900115772 LFI-190 Process Blue
- ▶ 900131420 LFI-200 Peacock Blue
- ▶ 900115006 LFI-205 Reflex Blue
- ▶ 900115720 LFI-210 Ultra Blue
- ▶ 900115771 LFI-221 Emerald Green
- ▶ 900130627 LFI-300 SO Jet Black\* (may increase mesh degradation)
- ▶ 900115003 LFI-301 Black
- ▶ 900115004 LFI-311 White
- ▶ 900115001 LFI-TW Tinting White
- ▶ 900115002 LFI-SB Shading Black
- ▶ 900115007 LFI-MX Mixing Clear

\* Verify correct curing, 150 mJ/cm<sup>2</sup> recommended

#### Fluorescent Colors\*

- ▶ 900130286 LFI-600 FL CHARTRUESE
- ▶ 900130287 LFI-610 FL ORANGE YELLOW
- ▶ 900130288 LFI-620 FL BLAZE ORANGE
- ▶ 900130289 LFI-630 FL ORANGE RED
- ▶ 900130290 LFI-640 FL ROCKET RED
- ▶ 900130311 LFI-650 FL PINK
- ▶ 900130312 LFI-660 FL GREEN

- ▶ 900130313 LFI-670 FL BLUE

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

#### Transparent Colors

- ▶ 900130531 LFI-240 TSP PRIMROSE
- ▶ 900130532 LFI-250 TSP MEDIUM YELLOW
- ▶ 900130533 LFI-255 TSP GOLD
- ▶ 900130534 LFI-260 TSP STOP SIGN RED
- ▶ 900130535 LFI-265 TSP DARK RED
- ▶ 900130536 LFI-270 TSP ORANGE
- ▶ 900130537 LFI-290 TSP BLUE
- ▶ 900130538 LFI-295 TSP PURPLE

#### Halftone Colors

- ▶ 900113382 LFI-HTC Halftone Cyan
- ▶ 900115489 LFI-PHTM Premium HT Magenta
- ▶ 900115490 LFI-PHTY Premium HT Yellow
- ▶ 900113385 LFI-HTK Halftone Black
- ▶ 900113386 LFI-HTX Halftone Base

#### Intense Halftone Colors

- ▶ 900113370 LFI-IHC Intense HT Cyan
- ▶ 900115521 LFI-PIHM Prem. Intense HT Magenta
- ▶ 900115522 LFI-PIHY Prem. Intense HT Yellow
- ▶ 900113393 LFI-IHK Intense HT Black

#### Reducers/Modifiers

- ▶ 900115791 LFI-TH Thinner
- ▶ 900097004 PFS26568 Flattening Paste

#### Overprint Clear

- ▶ 900129385 LFI-OP Gloss OP Clear
- ▶ 900129386 LFI-MOP Matte 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)

- ▶ 900114986 LFI-114 Orange
- ▶ 900114987 LFI-121 Red YS
- ▶ 900114989 LFI-164 Red BS
- ▶ 900113383 LFI-HTM Halftone Magenta
- ▶ 900113384 LFI-HTY Halftone Yellow
- ▶ 900113391 LFI-IHM Intense HT Magenta
- ▶ 900113392 LFI-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