



# SERIES UVFX-LED



## Technical Data Sheet

## Flexo Printing Inks

### 1. APPLICATION FIELDS:

Free radical **LED-UV curing flexo printing ink series for tubes** - flame pre-treated PE (such as LD-LLD-, HD-PE for example).

Substrates may differ in their chemical structure or method of manufacture. A test for suitability must always be carried out before printing. Antistatic, mould release agents and slip additives may have negative effects on adhesion, and should be detected and removed prior to printing.

### 2. CHARACTERISTICS:

UVFX-LED, UV curing ink series corresponds to the newest requirements of the market and is therefore

- **silicone-free**
- **high dense and brilliant**
- **suitable for printing in combination with screen printing**

Due to the low viscosity level, the ink series has excellent printing properties.

The inks of the UVFX-LED ink series are constitutionally free from toxic solvents.

### 3. RANGE OF COLOURS:

#### 3.1 Basic Colours:

Yellow C	UVFX-2207LED
Orange 021	UVFX-3405LED
Warm Red	UVFX-3406LED
Red 032	UVFX-3407LED
Rubine Red	UVFX-3404LED
Rhodamine Red	UVFX-3399LED
Purple	UVFX-5446LED
Violet	UVFX-5445LED
Process Blue C	UVFX-5443LED
Blue 072	UVFX-5444LED
Reflex Blue	UVFX-5447LED
Green	UVFX-6173LED
Transparent White	UVFX-0096LED

#### 3.2 PROCESS COLOURS:

Process-Yellow	UVFX-2188LED
Process-Magenta	UVFX-3398LED
Process-Cyan	UVFX-5420LED
Process-Black	UVFX-9077LED

#### 3.3 ADDITIONAL PRODUCTS:

Opaque White	UVFX-1062LED
Opaque Black	UVFX-9086LED

Process-Yellow (lightfastness >7)	UVFX-2206LED
Process-Magenta (lightfastness >6)	UVFX-3403LED

Pre-Print White 900UV1494  
(silicone-free, for screen printing, see top 6.)

### 4. ADDITIVES:

The ink series UVFX-LED is ready to use. In order to further enhance the flow characteristics of the ink, an addition of approximately 0,5 – 2% of the Levelling Agent 900UV-VM can be used.

Levelling Agent (addition 0,5 - 2%) 900UV-VM

The viscosity can be adjusted with Thinner.

Thinner (max. addition of 5%) 900UV-VD

### 5. PRODUCT RESISTANCE AND LIGHT FASTNESS:

	soap	alkali	alcohol	acid	light-fastness
Process-Yellow	-	4	3-4	4	4
Process-Magenta	2	3	2-3	3	4-5
Process-Cyan	5	5	4-5	5	7-8
Process-Black	5	5	4-5	5	8
Yellow C	-	4	3-4	4	4
Orange 021 C	5	5	5	5	6
Warm Red C	5	5	3-4	5	4
Red 032 C	5	5	4-5	5	6-7
Rubin Red C	2	3	2-3	3	5
Rhodamine Red C	-	5	5	5	8
Purple C	-	5	5	5	8
Violet C	-	5	5	5	8
Blue 072 C	-	5	4-5	5	8
Reflex Blue C	-	5	4-5	5	8
Process Blue C	5	5	4-5	5	8
Green C	5	5	5	5	7-8
Black C	5	5	5	5	8

Resistance in order with DIN ISO 2836 and LF in order with DIN ISO 12040:  
Product Resistance : 1 = poor 5 = good  
Light Fastness (LF) : 1 = poor 8 = good  
(input: requirement of supplier)

### 6. COMBINATION PRINTING:

UVFX-LED ink series shows excellent results in combination with screen printing with pre-printing silicone-free screen printing white **900UV1494** and screen printing ink series **955LED1070LM**. Overprintability is excellent with no

# SERIES UVFX-LED

reticulation.

## 7. FURTHER PROCESSING:

All with UVFX-LED ink series printed substrates - after proper curing - can be used for further processing:

- Hot-foil stamping

A special product suitability test is recommended.

## 8. PROCESSING INSTRUCTIONS:

### 8.1 PRE-TREATMENT:

We recommend a flame pre-treatment of at least 38 – 44 mN/cm for untreated PE.

### 8.2 RECOMMENDED ANILOX ROLLER CONFIGURATIONS:

Parameters	Process Colours	Text	Area
Line/cm	320 – 400	200 – 240	140 – 160
Line/inch	800 – 1000	500 – 600	350 – 400
Volume cm <sup>3</sup> /m <sup>2</sup>	3.0 – 4.0	4.5 – 5.5	7.5 – 9.0
Angle/degree	60°	60°	60°

### 8.3 PRINTING EQUIPMENT:

UVFX-LED ink series is suitable for all commonly used flexo printing machines with UV-LED curing lamps. Ink series UVFX-LED can be printed with all printing plate types developed for the use of free radical curing UV inks.

## 9. CURING CONDITIONS:

Suitable are LED curing lamps with intensity of minimum **4 W/cm<sup>2</sup>** and wavelength of **395 nm**.

Ink series UVFX-LED for LED curing has good curing properties and is suitable for a printing speed up to 120 tubes/minute depending on the colour shade, LED lamp configuration, ink colour, anilox roller and transferred film weight.

To achieve **good surface curing properties** must be cured at last by medium pressure mercury lamp (minimum lamp power: 120 - 200 W/cm).

## 10. CLEANING:

We recommend the below products:

Anilox and machine cleaner	34622
Printing plate cleaner	35352

The advice given by the printing plate manufacturers regarding the cleaning of the printing plate should always be observed.

If cleaning is not performed by fully automatic cleaning equipment, personal safety regulations must be followed.

## 11. SHELF LIFE:

A shelf life of **12 months** is guaranteed when storing the inks at 21°C and in the original packing container. At higher storage temperatures the shelf life will be reduced. Opened containers should be closed as prompt as possible to prevent a polymerisation of the UV inks due to the UV components in daylight.

## 12. PRECAUTIONS:

UV inks may cause irritations and can increase the sensitivity of the skin, possibly leading to hypersensitivity. Therefore, the use of disposable gloves and protective goggles is strongly recommended.

For further information on the safety, storage and environmental aspects concerning these products please refer to the Material Safety Data Sheet (MSDS).

Additional technical information may be obtained from our staff of the Product Management Department.

A. M. RAMP & Co. GmbH  
Lorsbacher Strasse 28  
D-65817 Eppstein

Tel: +49 (0) 6198-304-0  
FAX: +49 (0) 6198-304-287  
E-Mail: [info@ruco-inks.com](mailto:info@ruco-inks.com)  
[www.ruco-inks.com](http://www.ruco-inks.com)

