



## Technical Data Sheet

## Flexo printing inks

### 1. APPLICATION FIELDS:

Free radical curing and **low migration** UV flexo printing ink series for self adhesive labels, flexible packaging and foldable cartons for food packaging:

- corona pre-treated PE, PP, BOPP, OPP and OPP co-extruded
- Top coated PP and PE
- Pre-coated PET
- PVC
- NC-lacquered aluminium
- coated paper
- cardboard articles

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 - MA corresponds to the newest requirements of the label market and is therefore

- **silicone free**
- contains **no ITX**
- **benzophenone free**

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

The inks of the UVFX – MA series are constitutionally free from toxic elements and solvents. The raw materials used meet with the limits stipulated by the EEC regulation EN 71 (Safety of Toys), part 3 (Migration of Certain Elements) of December 1994.

All properly cured with UVFX – MA printed substrates are conform to article 3 of requirements (EG) Nr. 1935/ 2004.

### 3. RANGE OF COLOURS:

#### 3.1 PROCESS COLOURS:

Process Yellow	UVFX-2051 MA
Process Magenta	UVFX-3120 MA
Process Cyan	UVFX-5120 MA
Process Black	UVFX-9028 MA

### 3.2 ADDITIONAL PRODUCTS:

Varnish	UVFX-0039 MA
Opaque White	UVFX-1022 MA

### 4. ADDITIVES:

The ink series UVFX - MA is ready to use. In order to further enhance the flow characteristics of the ink, an addition of approx. 0,5 – 2 % of the Levelling Aid UVFX-VM can be used.

Levelling Aid (add 0,5-2%)	UVFX-VM
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### 5. PRODUCT RESISTANCE AND LIGHT FASTNESS:

	soap	alkal	alcohol	acid	light-fastness
Process Yellow	5	5	5	5	4
Process Magenta	3	2	2-3	3	5
Process Cyan	5	5	4-5	5	8
Process Black	5	5	4-5	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

### 6. COMBINATION PRINTING:

UVFX - MA shows also excellent results in combination with Rotary Screen, Offset or Letterpress Printing. The ink typically offers superb results of intercoat adhesion on these ink systems or vice versa. Over printability is excellent with no reticulation.

For optimal results in rotary screen printing we highly recommend the usage of our silicone free opaque white.

# UVFX - MA

## 7. FURTHER PROCESSING:

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

- THERMAL TRANSFER
- HOT-FOIL STAMPING
- COLD-FOIL STAMPING
- LASER OVERPRINTING

A special product suitability test is recommended.

## 8. PROCESSING INSTRUCTIONS:

### 8.1 PRE-TREATMENT:

We recommend a corona pre-treatment of at least 38 – 44 mN/cm for untreated polyolefines (PE, PP)

### 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 - MA ink series is suitable for all commonly used UV Flexo Printing machines. While changing from one ink series to another, e.g. changing from solvent based/containing or water base/containing or from cationic to radical UV curing systems, proper cleaning of all machine parts and components is necessary in order to avoid any incompatibility problems due to the different chemical character of the individual ink systems.

Among one another the individual ink systems can influence the printing results negatively.

Ink series UVFX - MA can be printed with all printing plate types developed for the use of free radical curing UV inks.

## 9. CURING CONDITIONS:

Suitable are medium pressure mercury lamps with 120 - 200 W/cm. UVFX - MA has good curing properties and is suitable for a printing speed up to 120 m/min depending on the colour shade, UV lamp configuration, ink colour, anilox roller and transferred film weight.

The cleaning cycles of the reflectors and the position time of the UV lamps described by the machine manufacturer should always be observed.

## 10. CLEANING:

We recommend the below products:

Anilox and machine cleaner	34 622
Printing plate cleaner	35 352

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:

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 Technical Application Department.

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