


Technical Product Information		
METALSTAR UV/LED FPG 726 500 nl Silver		
Article-No: 026618...	Product name: METALSTAR UV/LED FPG 726 500 nl Silver	

REVISION: 0	EDITION: NOVEMBER 2022	IDENT-NO: 00550.E	PAGE 1 OF 2
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Product description:

METALSTAR UV/LED FPG 726 500 nl Silver is a radical curing, solvent free, stable one-component UV/LED offset ink, based on non-leafing aluminium pigments suitable for paper, board and various non-absorbent substrates.

The ink is equally suitable for classic UV curing (mercury vapor lamps) and for the LED sector (LED lamps).

Migration:

- The formulation is specifically developed for food packaging applications.
- All ingredients are listed on Swiss Ordinance 817.023.21 appendix 1 or 6 (2005).
- Raw materials are selected with preference for high purity materials.
- White spirit and mineral oil are excluded from the pigment production process.
- GMP compliant production of MetalStar UV FPG 721 products (minimized risk of cross contamination) is guaranteed.

The above fundamentally differentiates MetalStar UV FPG series from standard UV Offset inks.

Therefore ECKART recommends this ink for selected production of packaging for food, beverages and tobacco (indirect food contact). Nevertheless, the customer has to proof the suitability of this inks for the specific application via a migration test or other measures (e.g. use of functional barriers in the packaging design). The inks are not recommended for direct food contact.

What is LED curing

UV-curing methods can be differentiated by the light source which is used. Mercury vapor lamps are the industry standard for curing products with ultraviolet light. These lamps emit a spectral output in the UV region of the light spectrum. The light intensity occurs in the 240 nm-270 nm and 350-380-nm. This intense spectrum of light is what causes the rapid curing of the standard UV inks

In the last few years an emerging type of UV curing technology called UV LED curing has entered the marketplace. This technology is growing rapidly in popularity as it is less energy consuming than mercury vapor lamps. LEDs used to be much more expensive but last up to 10 times longer and can be cycled on and off frequently as they require no startup or cool down period.

As LED lamps are only emitting one decent wavelength, inks with a curing especially optimized for this curing method are necessary.

Organoleptic properties (taint and odour):

In all cases the printed material / package has to be tested to ensure that the organoleptic properties satisfy the packaging specification.

Application:

METALSTAR UV/LED FPG NL Silver is a UV/LED curing ink for offset printing on paper and board; e.g. folding cartons.

As with all metallic inks the substrate has an influence on the final result. Very absorbent or uneven substrates often cause poor pigment orientation resulting in inferior brilliance. This is true not only for optical properties such as brilliance and hiding power, but also for printing properties such as adhesion, transfer and curing. In some cases, the use of primers for an improvement of the substrate surface is advantageous.

The inks are suitable to be overprinted in-line. It's recommended to cure before varnish is applied to preserve the metallic effect.

Over lacquering reduces the metallic effect. This influence, as well as the cohesion depend very much on the lacquer and should be tested prior to any commercial use.

Product properties:

METALSTAR UV/LED FPG 726 500 nl silver ink is based on non-leafing aluminium pigments and is distinguished by very good tintability and overprintability

The non-leafing properties of the metallic pigments show a very good intermediate adhesion and rub resistance. Every surface finishing (lacquers, laminates ...) will decrease the metallic brilliance.

In each respective case, individual tests are necessary because of the multiple factors influencing the final result.

Additional product properties:

METALSTAR UV/LED FPG	726 500 nl silver
Pigment content	ca. 16%
Pigment size (D₅₀)	ca. 5 µm

For technical specifications please refer to the technical data sheet.

Recommended printing parameters:

Print Density:

Measurements need to be taken with a densitometer including Cyan filter. The guiding values might change depending on press conditions, substrates, etc.


Printing speed:

The maximum printing speed depends on press conditions, conditions of the UV lamps, substrate and chosen design. Press speeds up to 12.000 sheets per hour are possible.

Fountain solution:

METALSTAR UV/LED FPG ink can be used with most commercially available fountain solutions. An ideal pH in the range of 5 - 5.5 avoids drying problems and tarnishing. High pH levels may lead poor printability.

Alcohol in damping units can be beneficial to metallic inks (up to 10%). METALSTAR UV FPG ink print perfect with a wide range

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		PAGE 2 OF 2

of alcohol-free fountain solutions. For best printing results please contact your press chemical supplier.

Printing plates:

Polymer layers of printing plates are sensitive to mechanical influences. Differences in the chemical nature of the polymers show significant variances in sensitivity, e.g. CTP plates are known to be more sensitive than conventional plates. All metallic inks are abrasive by nature and might reduce the plate life circle, depending on pigment grade, the kind plate and the number of impressions. We recommend baking the plate to prolong its life.

Dilution:

METALSTAR UV/LED FPG ink is press ready and should not be diluted. It's not recommended to add reactive diluents, as a negative impact to optical effect, curing speed and stability of the ink could occur.

Additives:

Not recommended. Any modification might impact the stability or the optical properties of the ink and is taken on own risk.

Cleaning recommendations:

METALSTAR UV/LED FPG ink can be cleaned by using commercial UV cleaning products. Contamination of the ink with cleaning agents should be avoided in order to maintain stability and optical properties.

Please refer to the safety data sheet for safety instructions.

Handling:

Please refer to the safety data sheet and the safety guidelines given here.

Storage and transportation:

METALSTAR UV/LED FPG ink should be stored at temperatures below 25°C. Direct sunlight has to be avoided.

High temperatures can lead to gelling. Low temperatures can result in the separation of low soluble binder components.

Open containers should never be handled in the direct sunlight, since this results in a preliminary polymerisation.

Shelf life: 6 months

Important: ECKART strongly recommends disposing of used ink after running on press, as the shelf-life of this material can be greatly reduced due to various factors such as light, heat, contaminants etc.

ECKART cannot guarantee the shelf life of printing ink, which has been previously used or modified, nor for ink which has been stored out with the conditions above.

For further information or samples, please contact:

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