

Technical Product Information		
METALSTAR UV 21 Silver		
Article-No:	Product name:	
050874..	METALSTAR UV 21 0004 Silver	

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Product description:

METALSTAR UV 21 silver ink are radical curing, solvent free, stable one-component UV offset inks, based on aluminium pigments. Suitable for paper, board and different non-absorbent substrates

The radiation curing (UV light) ink METALSTAR UV 21 may release odour-generating by-products during the drying process and is neither low-migration nor low-odour. Therefore it might contain unevaluated substances with the potential to migrate. Further essential measures for food packaging inks like specific raw material selection, analytic control of raw materials and final products on composition and impurities, GMP production, can not be guaranteed for our ink METALSTAR UV 21. Therefore ECKART does not generally recommend this ink series for the production of packaging for food, beverages and tobacco, without the customer proving suitability of this inks series for the specific application via a migration test or other measures (e.g. use of functional barriers in the packaging design).

Application:

METALSTAR UV 21 silver is a UV 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 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:

Rub resistance:

METALSTAR UV 21 silver inks are based on leafing pigments and provide good brilliance. The rub resistance is ok. Use UV lacquer for protection, however any finishing reduces the brilliance.

Intercoat adhesion and lamination properties:

The leafing properties of the metallic pigments can cause problems with all kind of finishing. 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	21 0004 SILVER
Pigment content	appr. 16.0 %
Pigment size (D ₅₀)	appr. 9 µm

For specifications of our products, please refer to the technical data sheet.

Recommended printing parameters:

Print Density:

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

METALSTAR UV	Colour density (wet)	Filter
21 0004 Silver	1.0 – 1.1	Cyan

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 inks 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 into poor printability.

Alcohol in damping units can be beneficial to metallic inks (up to 10%). METALSTAR UV inks also print perfect with a wide range 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 of plate and the number of impressions.

We recommend baking the plate to prolong its life.

Dilution:

METALSTAR UV are 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.

Max. 1 - 3% of reactive diluents like GPTA, TPGDA or TMP(EO)TA could be added press side. Take caution since there is a risk that properties like water pick up, etc. will change significantly.

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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 inks 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:

METALSTAR UV inks are stable, one-component, press ready inks - no modifications are needed nor recommended. However, blending of UNIPAK UV inks with other components should only be done per ECKART's recommendations in order to avoid a possible decrease in quality.

Metallic inks tend to settle because of the high specific gravity of the pigment. This is normal and not due to a lack of quality. The inks can be easily stirred up and homogenised again. This should be done before viscosity is checked. No pigment settling should be left on the bottom of the container.

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

Storage and transportation:

METALSTAR UV inks 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 outwith the conditions above.

For further information or samples, please contact:

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The data on this technical information sheet correspond with the current status of our knowledge and experience. The liability for the application and processing of our products lies with the buyer, and he is also responsible for observing any third party rights. We reserve the right to alter any product data as a result of technical progress or further developments in the manufacturing process.