

Technical Product Information



METALSTAR 03 black label series

Article-No:

070086..

Product name:

METALSTAR black label 03 0102 rich pale gold

REVISION: 3

EDITION: JUNE 2021

IDENT-NO: 00015.E

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Conventional sheetfed offset ink, mineral oil based¹

Product description:

METALSTAR 03 gold ink is a conventional, wax containing, mineral oil based sheetfed offset ink: Based on gold bronze and aluminium pigments for printing on paper on carton. Ideal for slow running presses and regions with high temperatures.

The oxidative drying ink METALSTAR 03 may release odour-generating by-products during the drying process and is neither low-migration nor low-odour. Due to our production processes for this product, we cannot guarantee necessary measures for FCM (Food Contact Materials), such as special raw material selection, control of raw materials and end products regarding composition and impurities or production according to GMP.

A SoC is therefore not available for this product.

When using this product in indirect food contact, the suitability for this application has to be tested before commercial use by the user through suitable analyses.

Application:

METALSTAR 03 Black Label ink is suitable for offset-sheetfed printing, based on leafing pigments. Ideally suitable for printing on paper and carton (e.g. labels, folding carton).

As with all metallic inks the substrate has an influence on the final result. This is true not only for optical properties as brilliance and hiding power, but also for printing properties such as adhesion and transfer.

Very absorbent or uneven substrates often affecting:

- The pigment orientation and consequently the brilliant effect.
- Transfer properties and adhesion, as essential parts of the binder might penetrate.

In some cases, the use of primers to improve the substrate surface is advantageous.

Product properties:

Rub resistance:

METALSTAR 03 Black Label ink is based on leafing pigments and provide good brilliance. For applications with high demands on rub resistance an OPV (oil-based or water-based over print varnish) is necessary. But it will reduce the brilliance.

Intercoat adhesion and lamination properties:

The leafing properties of the metallic pigments can cause problems with all kind of finishing. The intercoat adhesion with oil-based and water-based lacquers is good. UV lacquers and laminates should be avoided.

Every surface finishing (lacquers, laminates, and so on) will decrease the metallic brilliance.

¹ EuPIA Customer Information Note regarding the use of sheetfed offset inks/varnishes (setting and/or oxidative drying, or UV/EB curing) and water-based coatings for the manufacture of food packaging made from paper and board

The METALSTAR 03 Black Label is recommended for lamination.

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

Chemical resistance:

Resistance to	METALSTAR 03 Black Label
spirit	+
nitro	+
alkaline	-

The different shades of gold bronze pigments are based on an alloy of copper and zinc (brass) in different ratios. These alloys can react with chemicals or natural materials and might change color shade up to completely decompose the metal pigments. Carefully testing of all materials involved in the whole production process, although not directly involved in the printing process, is absolutely necessary before commercial print runs.

Additional product properties:

METALSTAR black label	03 0102
Pigment content	appr. 43 %
Pigment size (D ₅₀)	appr. 3.5 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, substrate, etc.

METALSTAR black label	Colour density (wet)	Filter
03 0102 rich pale gold	1.4 – 1.6	Y

Printing speed:

The maximum printing speed depends on press conditions, substrate and chosen design. Recommended press speed is between 6.000 – 8.000 sheets per hour.

Fountain solution:

All METALSTAR inks can be used with most commercially available fountain solutions. The pH should be kept as neutral as possible to avoid drying problems and tarnishing during print run. Ideal would be pH: 5 – 5.5. Avoid high pH levels as this might influence printability in a negative way.

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Alcohol in damping units can be beneficial to metallic inks (max. 10%). METALSTAR inks 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 compared to usual 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 inks are press ready and should not be diluted. Max. 1-3% of mineral oil could be added, but caution must be used since there is a risk that properties like trapping will change significantly.

Additives:

To improve rub resistance 2-4% wax paste could be added press side. This might have a negative effect on stability and optical properties and should be tested beforehand.

Cleaning recommendations:

METALSTAR inks can be easily cleaned by commercial available products. In any case contamination of the ink with cleaning agents must be avoided in order to maintain stability and optical properties.

Please refer to the safety data sheet for safety instructions.

Handling:

METALSTAR 03 Black Label products are stable one-component, press-ready inks with good metallic effects. However, blending of METALSTAR inks with other components should only be done on ECKART's recommendations in order to avoid a possible decrease in quality.

Used ink should not be refilled into the tin as emulsified fountain solution might react with the metallic pigments causing gelling, oxidation or even gassing.

Please refer to the Safety Data sheet for further handling guidelines.

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Storage and transportation:

All METALSTAR inks should be stored at temperatures below 25°C. High temperatures as well as very low temperatures should be avoided as these conditions could damage the product (oxidation/ gassing or flocculation of binder/additives with low solubility).

Keep the drums tightly shut and avoid unnecessary opening. Once opened – an anti-skinning agent could be used to avoid skinning.

Shelf life:

12 months

For further information or samples, please contact:

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www.eckart.net

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.