

## Technical Product Information



### METALSTAR FPG 712 series

**Article No.: Product name:**

022962... METALSTAR FPG 712 0001 rich gold  
023284... METALSTAR FPG 712 0002 rich pale gold  
023285... METALSTAR FPG 712 0003 pale gold  
022885... METALSTAR FPG 712 0004 silver

**Article No.: Product name:**

025405... METALSTAR FPG 712 0871  
025408... METALSTAR FPG 712 0872  
025410... METALSTAR FPG 712 0873  
025412... METALSTAR FPG 712 0874  
025414... METALSTAR FPG 712 0875  
025403... METALSTAR FPG 712 0876

REVISION: 1

EDITION: OCTOBER 2019

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PAGE 1 OF 2

**"Low-odour and low-migration" sheetfed offset ink, mineral oil free!**

#### Product description:

METALSTAR FPG 712 silver and gold are low migration, organoleptically neutral, one-component sheet-fed offset inks for the production of food packages made of paper and board.

All components of METALSTAR FPG 712 inks do either not migrate or have been evaluated for food contact.

- Ready to print, one-component sheet-fed offset ink
- Ideal for food packaging on paper and board (for printing on non-food contact surface)
- Very low migration
- very little swelling
- Ink dries through setting – not by oxidation
- Organoleptic assessment of printed products shows excellent results (Robinson test)
- Certificate of compliance for using in indirect food contact for dry food

Products of METALSTAR FPG 712 series are not suitable for direct food contact.

#### Application:

METALSTAR FPG 712 low migration sheet-fed offset ink series is suitable for printing on paper and carton for food packaging.

METALSTAR FPG inks do not dry by oxidation – purely by absorption.

Inline finishing is possible with water-based coating, which meets the requirements of the production of food packaging. Substrates with a low level of absorbability need the use of special water-based coatings.

Without inline coating, there will be setoff in the stack and the required rub resistance will not be obtain.

For best metallic effects use coated stocks with a uniform, smooth surface. The drying speed of these inks is depend on the substrate therefore requires a careful substrate selection. The inks show very good metallic effects on coated substrates with smooth surface. It is neither necessary nor recommended to enhance the effect by increasing the ink delivery. This might lead to printing problems: piling on press, poor stackability, long drying times and insufficient smudge resistance.

#### Product properties:

##### Intercoat adhesion and lamination properties:

METALSTAR FPG 712 inks based on leafing aluminium and gold bronze pigments. Finishing is possible, but not ideal. Every surface finishing will reduce the metallic effect. Full and appropriate testing is recommend before commercial production runs.

METALSTAR FPG	712 000x standard gold series 712 087x Pantone series	712 0004 silver
Pigment content	approx. 42%	approx. 18%
Pigment size (D50)	approx. 2,5 µm	approx. 5 µm
Pigment type	Leafing Cornflake	Leafing silver dollar

##### Chemical resistance:

The different shades of gold bronze pigments based on an alloy of copper and zinc (brass) in different ratios. These alloys can react with chemicals or natural materials and might change colour 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 necessary before commercial print runs.

##### Recommended printing parameters:

###### Print Density:


Measurements need to take with a densitometer including polarisation filter. The guiding values might change depending on press conditions, substrate, etc.

METALSTAR	Colour density (wet)	Filter
FPG 712 gold series	1.3 – 1.6	Y
FPG 712 silver series	0.9 – 1.1	C

###### Printing Speed:

The maximum printing speed depends on press conditions, substrate and chosen design. Recommended press speed is between 8.000 – 10.000 sheets per hour.

<sup>1</sup> 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

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#### Fountain solution:

METALSTAR FPG 712 printing inks must use in combination with fountain solutions, suitable for the production of food packages.

Delivery of the fount solution on the press must kept to an absolute minimum. This prevents emulsification as well as poor coating quality - especially when the level of ink application is low. Avoid drying problems or oxidation with an ideal pH in the range of 5.0 – 5.5. High pH levels may lead into poor printability.

Alcohol in damping units can be beneficial to metallic inks (up to 10%). METALSTAR FPG inks can also be print 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 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 FPG series are press ready and should not be dilute.

If necessary 1-3% of diluent suitable for food packaging could be add, but with caution since there is a risk that properties like trapping will change significantly.

#### Additive:

No additives should be use. Never use driers (siccatives), as this can create strong-smelling decomposition products. Modifications are taken on own risk and should be tested prior to any commercial use.

#### Postprint finishing:

METALSTAR FPG gold and silver inks dries through setting, not by oxidation. Stacks should be allow to dry fully for 48 hours after printing to ensure complete drying.

#### Cleaning recommendations:

Use only products for cleaning, which meet the requirements for the production of food packages. Contamination of the ink with cleaning agents must be avoid.

Please refer to the safety data sheet for safety instructions.

#### Handling:

METALSTAR inks are stable, one-component, press ready inks - no modifications needed or recommended.

Blending of METALSTAR inks with other components should only be as per ECKART's recommendations in order to avoid a possible decrease in quality.

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

#### Storage and transportation:

The ink should be stored below 25°C. High temperatures as well as very low temperatures during storage and transportation should be avoid as those conditions might damage the product (oxidation/gassing or precipitation of binder/additive with low solubility).

It is recommended to keep the tins shut and avoid unnecessary opening.

ECKART cannot guarantee shelf life stability for used products.

#### Shelf life:

METALSTAR FPG 712 000x Standard Gold Series	
METALSTAR FPG 712 087x Pantone Series	6 Monate
METALSTAR FPG 712 0004 Silver	12 Monate

For further information or samples, please contact:

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