


Technical Product Information			
MetalStar SuperEco 10 silver series			
Article-No: 53148..	Product name: MetalStar SuperEco 10 2004 Silver	Article-No: 53152..	Product name: MetalStar SuperEco 10 2877 Pantone® 877
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Conventional sheetfed offset ink, mineral oil free¹

Product description:

MetalStar SuperEco 10 silver sheet-fed offset inks are formulated using vegetable ester technology as opposed to hydrocarbon solvents / mineral oils as used in the majority of metallic offset inks.

MetalStar SuperEco 10 silver offset inks provides the printer with a much more flexible and robust metallic ink to print, with superior press stability characteristics making it better suited to printing on today's longer presses (8 and 10 colour) and perfecting presses.

The MetalStar SuperEco 10 silver offset inks use highly optimised metallic pigment technology, enabling it to be printed at speeds in excess of 10,000 impressions per hour. This pigment technology also delivers the ability to print extremely fine detail whilst running cleaner, with lower ink films on the inking rollers possible. Gloss / metallic effect are equal to that of mineral oil based systems such as the MetalStar 07 range.

The oxidative drying ink series MetalStar SuperEco 10 silver may release odour-generating by-products during the drying process and is neither low-migration nor low-odour. **Oxidative drying standard printing inks like MetalStar SuperEco 10 silver are generally not recommended by Eckart for the production of packaging for food and semi-luxury goods.** These inks can only be used for this purpose if any transfer of substances from the printed ink film to the packed product (by migration or set-off) as well as a deterioration of the organoleptic properties of the packed product is excluded by suitable packaging design, by appropriate processing conditions and the use of a primary packaging material with sufficient barrier properties.

Application:

Offset sheet-fed printing on paper and carton (e.g. labels, folding carton).

The selection of the substrate has an enormous impact on the final result of the MetalStar SuperEco 10 silver offset inks. This is true not only for optical properties, brilliance and hiding power, but also for printing properties such as adhesion and transfer. Very absorbent or uneven substrates often cause a bad pigment orientation resulting in inferior brilliance. Additionally these substrates can negatively influence transfer properties and adhesion by absorbing essential parts of the binder. In some cases it might be advantageous to print a suitable primer first, in order to improve surface properties of the substrate.

The MetalStar SuperEco 10 silver inks in Pantone® colours are fully licensed by Pantone, Inc. and comply with colour specification. Changes in the colour specification are possible at any time on request by Pantone, Inc. and are not seen as a lack of quality. Variations in colour shade can be caused by different substrates, lacquers, laminates or printed colour densities.

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

Product properties:

Rub resistance:

The MetalStar SuperEco 10 silver inks are based on leafing aluminium pigments leading to low to middle rub resistance properties. For better protection an oil-based or water-based lacquer could be applied, however a decrease in brilliance will result.

Intercoat adhesion:

The leafing properties of the aluminium pigments can cause problems with all kind of finishing. The intercoat adhesion with oil-based and water-based lacquers is less critical, but UV lacquers and laminates should be avoided. Proper testing is recommended before commercial production runs. Overlacquers or other types of downstream finishing (i.e. laminates) will cause a decrease in the metallic brilliance.

Lamination properties:

Lamination of the MetalStar SuperEco 10 silver offset inks should be possible providing care is taken to select the appropriate combination of laminate and adhesive. For best results we would recommend the MetalStar SuperEco 08 silver sheet-fed offset inks. Testing is always recommended prior to production runs.

Additional product properties:

	MetalStar SuperEco 10 silver series
Pigment content	16,0 ± 1%
Pigment size (D₅₀)¹	5.5 ± 1.0 µm
Mineral oil content³	< 1%

¹ data related to pigment

³ calculated

Recommended printing parameters:

Printing speed:

The maximum printing speed depends on press conditions, substrate and chosen design. Press speeds up to 15.000 sheets per hour are possible.


Print Density:

For correct measurements the densitometer has to have a polarisation filter. The reference values given in the list below might change depending on press conditions, substrate, etc.

	Colour density (wet)	Filter
MetalStar SuperEco 10 silver series	0.9 – 1.1	C

Fountain solution:

While MetalStar inks can be used with most commercially available fountain solutions it is desirable to keep the pH as neutral as possible to avoid drying problems and tarnishing during the run. An ideal pH would be in the range of 5 – 5.5. Avoid high pH levels as this may lead into poor printability. Alcohol in damping units can be beneficial to metallic inks (up to 10%). MetalStar inks also print perfect with a wide range of

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

Printing plates:

The polymer layers of printing plates are very sensitive to mechanical influences, but differences in the chemical nature of the polymers show significant differences in sensitivity. CTP plates are known to be more sensitive than conventional plates. Metallic inks are by nature abrasive and might destroy the plates within a certain number of impression, depending from the pigment grade and kind of plate used. Independent from the kind of plate used we recommend to bake the plate to prolong its life.

Dilution:

The inks are press ready and should not be diluted. Do not use mineral oils to reduce these inks.

Additives:

If required, 2-4% of 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:

Commercial products can be used. Contamination of the ink with cleaning agents should be avoided in order to maintain stability and optical properties. Good industrial hygiene should be practiced with this type of product. Use appropriate protection as specified by the MSDS information.

Handling:

MetalStar SuperEco 10 silver sheet-fed offset inks are stable, one component, press-ready inks and no modifications should be required to achieve suitable press performance. Blending of these inks with other components should only be made in accordance with the recommendations in this data sheet to avoid potential decrease in quality during or after printing. Ink from the duct should not be re-used as emulsified fountain solution can make it's way into ink in the duct, causing deterioration to the stability of the ink – gelling, tarnishing, oxidation, gassing etc. Please contact our Technical Support Team for further information.

Storage and transportation:

These products are design to be press-ready and to have a long can shelf life when stored under appropriate conditions. The products should be stored at < 25°C. High and low temperatures during storage and / or transportation should be avoided as this may damage the product (oxidation / gassing or precipitation of binder / additive etc). Store away from direct sunlight. It is recommended that the tins are kept closed whenever possible and once opened, an anti-skinning agent should be considered to avoid skinning.

Shelf life: 12 months

Safety data sheet No: MSEA3

MetalStar SuperEco 10 silver series

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