


Technical Product Information		 ECKART Effect Pigments
ULTRASTAR FX-Series		
Article-No.: 052297..	Product Name: ULTRASTAR FX-1604 Silber	
REVISION: 11	EDITION: MARCH 2019	IDENT-No.: 00141.E
PAGE 1 OF 2		

Product description:

ULTRASTAR FX-1604 are solvent based flexo inks based on METALURE® VMP dispersions for mirror effects on film.

Mirror effects (reverse printed) and highest brilliant effects (surface printed) are possible utilizing ULTRASTAR FX products. The series provides additionally excellent hiding power.

The ink series ULTRASTAR FX is solvent based, but neither low-migration nor low-odour. Due to our production processes for these products, 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 these products. When using these products in indirect food contact, the suitability for this application has to be tested before commercial use by the user through suitable analyses.

Application:

ULTRASTAR FX-1604 are solvent based flexo inks. Ideal suitable for printing on film, e. g. self-adhesive labels and flexible packaging.

The ULTRASTAR FX-series is developed for reverse printing on transparent films to create mirror effects which can substitute metalized substrates, foil blocking or de-metalizing processes. The inks achieve highest brilliant effects surface printed onto transparent or opaque films.

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

Product properties:

Rub resistance and lamination properties:

The ULTRASTAR FX-series is based on non-leaving pigments. The split proof and the lamination properties are excellent as long as the adhesion to the substrate is given.

The rub resistance is very good on almost all substrates. Over-lacquering is therefore neither necessary nor recommended as this would reduce the metallic effect.

Adhesion:

ULTRASTAR FX-1604 are recommended for OPP, pre-treated PET und PE. Pre-treated films (preferably in-line corona treated) give usually excellent adhesion.

Due to the large variety of films individual tests before any commercial use is necessary.

Additional product properties:

ULTRASTAR	FX-1604 Silber
Pigment content	appr. 7.5 %
Pigment size (D₅₀)	appr. 6.0 µm
Solid content	appr. 10.5 %
Binder	NC
Solvent	Alcohol

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

The supply viscosity of ULTRASTAR FX-series offers flexibility to the user (e. g. to direct blend the ink with process colors; to adjust the drying; to adjust the individual print viscosity).

Recommended printing parameters:

Anilox-configuration:

The following parameters have shown to be useful:

Reverse print on transparent film:

Line count: 100 - 140 lines/cm (250 – 350 l/inch)
Cell volume: 10 - 12 cm³/m² (6.5 – 7.5 bcm/in²)

Surface print on film:

Line count: 140 - 225 lines/cm (350 – 550 l/inch)
Cell volume: 7.5 - 10 cm³/m² (4.5 – 6.5 bcm/in²)

Dependent on substrate and design it can be useful to use alternative cell counts and volumes. However, the metallic effect could be reduced by printing too high film weights.

Printing speed:

The maximum printing speed depends on individual press conditions, substrate and chosen cell volume. A printing speed of 150 m/min (500 ft/min) and more is possible as long as the drying capacity is sufficient.


Normally the effect improves with increasing printing speed. The ink is suitable for highest printing speeds.

Printing viscosity: 25 – 30 s (DIN 4 cup)
35 – 40 s (Zahn 2 cup)

The ideal printing viscosity also depends on cylinder configuration and may vary from the given data.

Dilution:

The ULTRASTAR FX-series should be adjusted to printing viscosity with alcohol (e.g. ethanol or isopropyl alcohol). For slower drying methoxy propanol could be used as a retarder.

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REVISION: 11	EDITION: MARCH 2019	IDENT-No.: 00141.E	PAGE 2 OF 2

The amount of solvent may depend on the chemical nature of the solvent.

Cleaning recommendations:

The ULTRASTAR FX-series can be removed from the cylinder with alcohols or alcohol/ester blends at any time.

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:

ULTRASTAR products are stable one-component inks with excellent metallic effects and high brilliance. The inks can be printed as delivered or adjusted to print viscosity. However, blending of ULTRASTAR inks with other components should only be done on 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 metallic pigments. 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 check. No pigment settling should be left on the bottom of the container.

Please refer to the safety data sheet of ULTRASTAR FX-series for further handling guidelines.

Storage and transportation:

All ULTRASTAR 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).

As the solvents in all ULTRASTAR inks are highly volatile, it is recommended to keep drums tightly shut and avoid unnecessary opening.

ECKART cannot guarantee shelf life stability for used products. Often enough used inks are printed again, we recommend optical tests prior to commercial use. Additionally, used ink should be stored in a drum with air vent valve as possible contaminations (e. g. water content in solvents) can lead to gassing.

Shelf life: 12 months

For further information or samples, please contact:

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