


Technical Product Information		
ROTOSTAR UV 166 FLEXO INK Gold Series		
Article-No.: 023930.. 023931..	Product Name: ROTOSTAR UV 166 001 rich gold ROTOSTAR UV 166 002 rich pale gold	

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Product description:

ROTOSTAR UV 166 series are radical curing, solvent-free; stable one-component UV-Flexo inks based on bronze pigments for paper, board and different non-absorbent substrates.

Standard shades (rich gold and rich pale gold) and PANTONE shades 871-876 available (see TPI no. 476)

ROTOSTAR UV 166 gold inks offer a very high metallic effect in combination with a good rub resistance and adhesion performance.

The radiation curing (UV light) ink series ROTOSTAR UV 166 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't guaranteed for our ink ROTOSTAR UV 166. 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:

ROTOSTAR UV 166 series is suitable for flexo printing on paper, board and different film substrates, for labels, flexible packaging and carton folders. For narrow-web as well as wide-web applications.

This ink has designed for flexographic printing on papers and carton board.

In our experience, the ink will print and adhere satisfactorily to top coated self-adhesive label substrates such as polyethylene, polypropylene and polyester.

As with all metallic inks, the substrate has a big influence on the final-result.

High absorbent or uneven substrates often cause poor pigment orientation resulting in inferior effect. In some cases, the use of primers for an improvement of the substrate surface is advantageous.

ROTOSTAR UV 166 gold inks are suitable for in-line over-vernishing with an appropriate UV Varnish.

It is recommend to cure before the UV Varnish is applied, to achieve optimum results.

Product properties:

Curing speed:

On many substrates ROTOSTAR UV 166 gold inks will exhibit good cure at printing speeds of 80 m/min (MEK-test), when using an UV-lamp with power of 140 Watt/cm.

Strong absorbent substrates can have a negative impact on the curing properties of the ink.

Rub resistance:

Completely cured ROTOSTAR UV 166 gold inks provide a good rub resistance on many substrates. To meet high demands on rub resistance an overprint varnish should be applied, ideally in-line with additional curing.

However, any finishing reduces the metallic effect.

Adhesion:

When using non- or low absorbent substrates, corona treatment would recommended. Also by using highly coated papers, the adhesion can improved significantly in this way.

Maximum adhesion takes effect after around 24 hours.

Due to the large variety of films, it's recommended to test the suitability of ROTOSTAR UV 166 gold inks prior to any commercial use.

Organoleptic Properties (Taint and Odour):

ROTOSTAR UV 166 gold inks have not formulated with low taint or odour (Robinson test). In all cases, the final packaging needs to test to ensure that the organoleptic properties meet the required specifications.

Migration:

ROTOSTAR UV 166 gold inks have not formulated to exhibit low migration. We would not recommend the ink for use on primary food packaging or in any other areas where low migration is an essential requirement.

Please note, that these ink can used for secondary food packaging and packaging where a functional barrier exists between the primary packaging and the product.

Additional product properties:


ROTOSTAR UV 166	Standard golds
Pigment content	appr. 30.0 %
Pigment size (D₅₀)	appr. 6 µm
Solvent content	0 %
VOC	0 %
Brilliance	***
Hiding power	**

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

Recommended printing parameters:

For maximum metallic brilliance, we recommend using the Standard Shades (rich and rich pale).

For improved hiding power, stronger colour and matching to the Pantone Offset colour standard, we recommend using the Pantone 871 – 876.

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Anilox configuration:

The metallic effect depends on the ink lay down; the more hiding power, the higher the brilliance.
The following parameters have shown to be useful:

	L/cm	L/inch	Volume cm ³ /m ²	Volume BCM/in ²
Full areas & coarse lines	80-120	200-300	12-15	8.0-10.0
Fine lines	140-170	360-440	7-10	4.5-6.5

Printing speed:

At 140 Watt / cm UV-lamp capacity, a printing speed of 80 m/min can be achieved. Dependent on substrate and film thickness the printing speed varies.

Printing viscosity:

ROTOSTAR UV 166 gold inks supplied with printing viscosity.

Dilution:

The inks already adjusted to printing viscosity. It is not recommended, to add reactive diluents, as a negative impact to optical effect, curing speed and stability of the ink could occur. If it's necessary to adjust the viscosity, this can be achieved by a low addition of reactive diluents like TPGDA or TMP(EO)TA at press-side. If unavailable, up to 5% of Methoxypropanol or N-Methylpyrrolidon can be added.

Cleaning recommendations:

ROTOSTAR UV-inks can be cleaned by using conventional UV cleaning agents. Also with esters or ester/alcohol mixtures, the uncured inks can be removed easily from the cylinders. Please refer to the safety data sheet and the safety guidelines given there.

Handling:

ROTOSTAR UV-inks are stable, brilliant one-component inks. That can be printed without modification. Blending of with other components should only be done on ECKART's recommendation in order to avoid a possible decrease in quality.

Metallic inks tend to settle during storage 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.

When handling UV-inks, please refer to the safety data sheet and the safety guidelines given there.

Storage and transportation:

ROTOSTAR UV-inks should be stored at temperatures below 25°C. Direct sunlight should also be avoided.

High temperatures can lead to gelling. Low temperatures can result in the separation of low soluble binder components. Opened containers should never be exposed to direct sunlight, since this results in a preliminary polymerisation.

Shelf life: 12 months

Important: ECKART strongly recommends disposing of used ink after running on press, as the shelf life of this material can greatly be 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,

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stored out with the conditions above.