


Technical Product Information		
ROTOSTAR UV/LED 366 87x FLEXO INK Series		
Article no.:	Article name:	
025744..	ROTOSTAR UV/LED 366 871 Flexo INK	
026429..	ROTOSTAR UV/LED 366 873 Flexo INK	
026428..	ROTOSTAR UV/LED 366 875 Flexo INK	
025914..	ROTOSTAR UV/LED 366 877 Flexo INK	

REVISION: 0	EDITION: OCTOBER 2021	IDENT-NO.: 00543.E	PAGE 1 OF 3
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## Product description:

ROTOSTAR UV/LED 366 87x FLEXO INK series are radical curing, solvent free, stable one-component Flexo inks based on aluminium and bronze pigments for paper, board and different non-absorbent substrates.

These inks are equally suitable for classic UV curing (mercury vapor lamps) and for the LED sector (LED lamps).

The radiation curing (UV light) ink series ROTOSTAR UV/LED 366 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, cannot be guaranteed for our ROTOSTAR UV/LED 366 series. 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.

For indirect food packaging requirements ECKART recommend the therefore especially developed ROTOSTAR UV/LED FPG (Food Packaging Grade) series. For further information or samples, please contact ECKART's customer service.

## What is LED curing?

UV-curing methods can be differentiated by the light source which is used. Mercury vapor lamps are the industry standard for curing products with ultraviolet light. These lamps emit a spectral output in the UV region of the light spectrum. The light intensity occurs in the 240 nm-270 nm and 350-380-nm. This intense spectrum of light is what causes the rapid curing of the standard UV inks. In the last few years an emerging type of UV curing technology called UV LED curing has entered the marketplace. This technology is growing rapidly in popularity as it is less energy consuming than mercury vapor lamps. LEDs used to be much more expensive but last up to 10 times longer and can be cycled on and off frequently as they require no startup or cool down period.

As LED lamps are only emitting one decent wavelength, inks with a curing especially optimized for this curing method are necessary.

## Application:

ROTOSTAR UV/LED 366 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 been 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. Very 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/LED 366 inks are suitable for in-line overvarnishing with an appropriate UV Varnish.

It's recommended to cure before the UV Varnish is applied, to achieve optimum results.

## Product properties:

### Rub resistance:

Completely cured ROTOSTAR UV/LED 366 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 is recommended. Also, by using highly coated papers, the adhesion can be improved significantly in this way.

Maximum adhesion takes effect after around 24 hours.

Due to the large variety of films, it is recommended to test the suitability of ROTOSTAR UV/LED 366 inks prior to any commercial use.


### Organoleptic Properties (Taint and Odour):

ROTOSTAR UV/LED 366 inks have not been formulated with low taint or odour (Robinson test). In all cases, the final packaging needs to be tested to ensure that the organoleptic properties meet the required specifications.

### Migration:

ROTOSTAR UV/LED 366 inks have not been 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 inks can be used for secondary food packaging and packaging where a functional barrier exists between the primary packaging and the product.

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REVISION: 0	EDITION: OCTOBER 2021	IDENT-NO.: 00543.E	PAGE 2 OF 3
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#### Additional product properties:

ROTOSTAR UV/LED 366 xxx FLEXO INK	871 - 876	877
Color shade	gold	silver
Pigment content	appr. 30.0 %	appr. 11.0 %
Pigment size (D <sub>50</sub> )	appr. 3,5 µm	appr. 5 µm
Viscosity (Pas) *	0,5	0,4
VOC	0 %	< 0.2 %

\* typical value

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

#### Recommended printing parameters:

##### 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 <sup>3</sup> /m <sup>2</sup>	Volume BCM/in <sup>2</sup>
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 viscosity:

ROTOSTAR UV/LED 366 inks are supplied with printing viscosity.

##### Dilution:

The inks are already adjusted to printing viscosity. It's 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/LED 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/LED 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/LED inks, please refer to the safety data sheet and the safety guidelines given there.

#### Storage and transportation:


ROTOSTAR UV/LED 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 the direct sunlight, since these results in a preliminary polymerisation.

**Shelf life:** 6 months

Important: ECKART strongly recommends disposing of used ink after running on press, as the shelf-life of this material can be greatly 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 inks that have been stored outside the above conditions.

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REVISION: 0	EDITION: OCTOBER 2021	IDENT-No.: 00543.E	PAGE 3 OF 3

For further information or samples, please contact:

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