Technical Product Information

ROTOVARIO FPG 550 Series

Article-No.:	Product Name:
027551…	ROTOVARIO FPG 550 113 Silver
027552…	ROTOVARIO FPG 550 913 Silver
027554…	ROTOVARIO FPG 550 911 Silver
027327…	ROTOVARIO FPG 550 902 Silver
027553…	ROTOVARIO FPG 550 311 Silver

Product description:

ROTOVARIO FPG 550 series is based on non-leafing aluminum pigments pasted in various solvents for wide application possibilies. Developed for the formulation of printing inks for food packaging applications (indirect food contact) where perfect rub resistance is required.

- Brightness paired with high opacity and very good brilliance.
- The adhesion of these pigments is outstanding
- Ingredients are either low migration or meet the specific migration limits for evaluated substances under selected test conditions.
- Raw materials are selected with preference for high purity materials.
- White spirit and mineral oil are excluded from the production of these aluminum pastes.
- The products are designed beyond the MOSH/MOHA restrictions for 2025.
- FPG 550 grades are 100% mineral oil free.
- GMP compliant production of ROTOVARIO FPG 550 series minimizes the risk of cross contamination
- The formulation is specifically developed for food packaging application; under selected test conditions, migration limits are undercut.

This differentiates ROTOVARIO FPG 550 food packaging series from standard ROTOVARIO pastes.

FPG= Food Packaging Grade

Background information on migration into foodstuff:

In article 3 of the framework regulation (EC) 1935/2004 on materials and articles intended to come into contact with food, the following is required: Materials and articles must not release any substance into the packed food in concentrations that could endanger human health, change the food's organoleptic properties or its composition to a significant extent. As a consequence, the global migration must not exceed 60 ppm. Any non-evaluated substance must either not exceed 10 ppb or 50 ppb in case it is non-genotoxic according to the EFSA guideline (EuPIA Guideline on Printing Inks applied to the non-food Contact Surface of Food Packaging Materials and Articles). For evaluated substances, the listed specific migration limit applies.

Whether these limits will be exceeded or not depends on several aspects as follows:

- Selection of raw materials
- Formulation
- Printing parameters: type and thickness of substrate, printing speed, transferred ink volume, drying of ink

Since the aforementioned parameters are beyond the control of ECKART the fulfillment of the requirements of regulation 1935/2004 when using ROTOVARIO FPG 550 series has to be proven by the manufacturer of the food packaging material. However, the ingredients of ROTOVARIO FPG 550 series should allow the formulation of solvent based inks for food packaging. Further information on potential migrants is to be found in the „Statement of Composition", which is available on request.

In all cases the printed material / package have to be tested to ensure that the migration properties satisfy the packaging specification.

Organoleptic properties (taint and odour):

In all cases, the printed material / package have to be tested to ensure that the organoleptic properties satisfy the packaging specification.

Application:

Our portfolio of ROTOVARIO FPG 550 pastes is completely based on Silverdollar pigments. They are ideally suited for solvent based gravure and flexographic applications for the application on paper, board and foil for the manufacturing of food packaging (indirect food contact).

In addition to food packaging, main end applications include tobacco (carton board) as well as flexible packaging on paper and film. Our metallic ROTOVARIO FPG pastes are also widely used for shrink sleeve applications and labels in general.

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. In some cases, the use of primers to improve the substrate surface is advantageous.
The choice of substrate can influence the optical properties, such as brilliance and opacity, as well as printing properties, such as adhesion and transfer behaviour.

Product properties:

Rub resistance and lamination properties:

The ROTOVARIO FPG 550 pastes are based on non-leafing pigments, suitable for the formulation of perfectly rub resistant inks with very good adhesion properties.

In each respective case, special tests are necessary because of the multiple factors influencing the final result.

Optimum colour consistency in polychromatic colours (e.g., imitation gold).

Additional product properties:

ROTOVARIO FPG	550 113	550 913	550 911	550 902	550 313
Pigment content	50 %	50 %	50 %	60 %	50 %
Amount of Solvent	50%	50%	50%	40%	50%
Solvent	Iso Propanol	Ethyl Acetate	Ethyl Acetate	Ethyl Acetate	n-Propyl Acetate
Recommended application	Flexo	Gravure	Gravure	Gravure	Gravure
Pigment size (D50)	5 µm	5 µm	10 µm	12µm	10µm
Pigment characteristics	Silver dollar	Silver dollar	Silver dollar	Silver dollar	Silver dollar
Hiding power	*****	*****	***	**	***
Brilliance	**	**	****	*****	****

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

Handling:

The ROTOVARIO FPG 550 types are pigment pastes optimised for high metallic effects and excellent rub resistance. The concentrates can be stirred directly into a solvent-based binder system by using low shear stress aggregates.

Metallic inks tend to settle 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.

Please refer to the Safety Data sheet of ROTOVARIO FPG 550 for further handling guidelines.

Guiding formulations:

These suggested starting formulations are examples intended for general guidance only and do not represent the optimum result for any specific application.

Flexo printing ink with PVB binder

ROTOVARIO FPG 550	30 %
Ethanol	55 %
PVB resin	15 %
Σ	100 %

Solve the PVB resin in solvent. Homogenize the ROTOVARIO in solvent, add PVB resin solution and stir. Adjust the viscosity to printing viscosity using ethanol.

Gravure printing ink with NC binder for absorbent substrates

ROTOVARIO FPG 550	35 %
NC wool	17 %
Triacetin	5 %
Ethanol	24 %
Ethyl Acetate	18 %
Wax	1 %
Σ	100 %

Solve the NC resin in solvent. Homogenize the ROTOVARIO in solvent, add NC resin solution and stir. Adjust the viscosity to printing viscosity using ethyl acetate

Storage and transportation:

All ROTOVARIO types 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.

Shelf life: 6 months

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