


Technical Product Information		
Stapa Hydroxal FPG 652 series		
Article-No.: 024965... 024963...	Product Name: Stapa HYDROXAL FPG 652 114 Silver Stapa HYDROXAL FPG 652 211 Premium Silver	
REVISION: 1	EDITION: JUNE 2021	IDENT-NO.: 00506.E
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Product description:

The products of Stapa HYDROXAL FPG 652 series based on aluminum pigments, are characterized by the following technical properties:

- Pigment content of 50% / 60% allows highest flexibility in ink formulation in combination with easy dispersing characteristics.
- The binder-free dispersion is compatible to most water binder systems.
- The dispersions are stabilized to minimise gassing. Due to the variety of available binders, a final stability test is necessary.

These products are developed for the formulation of printing inks for food packaging applications (indirect food contact).

- 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.
- GMP compliant production of Stapa HYDROXAL FPG 652 products 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 Stapa HYDROXAL FPG 652 products (Food Packaging Grade) from standard Stapa HYDROXAL pastes.

Background information on migration into food stuff:

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 Stapa HYDROXAL FPG 652 series has to be proven by the manufacturer of the food packaging material. However, the ingredients of Stapa HYDROXAL FPG 652 series should allow the formulation of water 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:

Stapa HYDROXAL FPG 652 pigment paste series are suitable to formulate water based gravure, flexo and screen printing inks for the application on paper and board substrates for the manufacturing of food packaging (indirect contact).

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 optical properties such as brightness and coverage, also the printing properties, such as adhesion, transfer and so on, are depending on substrate.

Product properties:

Rub resistance and lamination properties:

Stapa HYDROXAL FPG 652 114 silver paste based on non-leafing pigments, suitable for the formulation of rub resistant inks.

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

These products contain hydrophobic stabilizer and therefore these products shows a more or less pronounced leafing characteristics.

Additional product properties:

Stapa HYDROXAL	FPG 652 114 Silver	FPG 652 211 Premium Silver
Pigment content	approx. 50%	approx. 60%
Pigment type	Non-leafing Cornflake	Leafing Silver dollar
Solid content	approx. 58%	approx. 68%
Pigment size (D₅₀)	approx. 10 µm	approx. 10 µm

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

Technical Product Information



Stapa Hydroxal FPG 652 series

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024963...**Product Name:**Stapa HYDROXAL FPG 652 114 Silver
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Optical properties

Stapa HYDROXAL	Brilliance	Coverage
FPG 652 114 Silver	* *	* *
FPG 652 211 Premium Silver	* * *	* * *

Handling:

The Stapa HYDROXAL FPG 652 types are pigment pastes optimised for high metallic effects. The concentrates can be stirred directly into a water 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 Stapa HYDROXAL FPG 652 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 (e.g. indirect food contact).

Rub resistant flexo printing ink

Stapa HYDROXAL FPG 652 114 Silver	25,0 %
ROTOSTAR Aqua ME 10-0001	64,3 %
No Foam ⁽²⁾	0,2 %
Ceraflour 991 ⁽³⁾	0,5 %
Wasser	10,0 %
Σ	100,0 %

Ideally disperse under vacuum: Homogenize Stapa HYDROXAL 652 114 Silver in binder system. Add other formula components and disperse. Adjust viscosity.
Print viscosity for flexo: 25 – 35 s DIN 4 cup.

Brilliant gravure printing ink

Stapa HYDROXAL FPG 652 211 Premium Silver	20,0 %
Joncryl 2635 ⁽¹⁾	64,6 %
No Foam ⁽²⁾	0,2 %
Ceraflour 991 ⁽³⁾	0,2 %
Wasser	15,0 %
Σ	100,0 %

Ideally disperse under vacuum: Homogenize Stapa HYDROXAL FPG 652 211 Premium Silver in binder system. Add other formula components and disperse. Adjust viscosity.
Print viscosity for gravure: 15 – 20 s DIN 4 cup.

Suppliers:

- (1) BASF
- (2) Krahn Chemie
- (3) BYK Additives & Instruments

Storage and transportation:

All Stapa HYDROXAL 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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