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Gecko® Frontal Uni FOG LSR

Solvent based printing inks for flexible packaging
Surface printing

Description

A full colour range of highly pigmented plurisolvant nitrocellulose printing inks designed for surface printed applications on flexible films, supplied as finished products or for use as mono pigmented concentrates and system additive. This Series is specifically designed for flexible packaging manufactured with antifog films, and to allow a reduced solvent retention.

Printing Process

Flexographic and gravure printing.

Applications

Surface printing.

Suitable for food and beverage flexible packaging.

Substrates: LDPE, HDPE, BOPP, Coex OPP, CPP, PET chem., acrylic PP*, OPA, Paper, shrinkable films (OPP, PE**, PET-G and OPS)
* Applicability on acrylic coated PP has to be tested properly in relation to the adhesion promoter already contained in the series.
** in combination with White GFZ.

Minimum surface tension: Coex OPP, BOPP, LDPE, HDPE, CPP: 38 mN/m
OPA: 48 mN/m (mN/m = dynes/cm).
This ink series already contains Adhesion Promoter.

Adhesion Promoter All inks in this series already contains Adhesion Promoter.

Properties

Adhesion	4	Water resistance	3
Rub resistance	4	Deep freeze resistance	3
Scratch resistance	4	Vegetable oil resistance	4
Heat resistance	160° - 170° C	Gloss	4

Rating scale (1 to 5 based on Gecko product range) 1= worst value, 5= best value

Note: All technical properties are a guideline only and depend on pigment choice and final application. For details about exact test methods which are the basis for info about fastness properties given above please refer to the general test method overview.

Auxiliaries

Metallics: A full range of Gecko imitation gold and silver inks is available.

Additives: A full range of additives is available to modify the performances of Gecko Frontal Uni FOG LRS.

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Process Inks: A range of slow drying flexo half-tone process colours is available (FOG GFU LSR raster).

Printing viscosity

Diluents	Flexographic Printing 20 – 25 s DIN 4	%	Gravure Printing 13 – 15 s DIN 4	%
Slow	n-Propanol/n-Propyl Acetate	90:10 to 70:30	Ethanol/n-Propyl Acetate	50:50 to 75:25
Standard	Ethanol/Ethyl Acetate	90:10 to 70:30	Ethanol/Ethyl Acetate	50:50 to 30:70
Fast			Ethyl Acetate	100
Retarder	Ethoxy Propanol		Ethoxy Propanol	

Gecko Frontal Uni FOG inks from Concentrates

With mixing stations or other equipment, it is possible to produce ready-made Inks of the Gecko Frontal Uni FOG Series using the concentrates of the Gecko Base Series and the appropriate System Additive Gecko Frontal Uni FOG (00GU537566):

For this operation, it is required a mixing ratio of:

- 25% of System Additive (00GU537566).
- 60% of Gecko Base products (Colour Concentrates and NC varnish 00GB274057).
- 15% of free solvent

No warranties can be given if products from other manufacturers are mixed with **hubergroup** products.

Instructions for the use of printing inks for the production of primary food packaging

For information on the use of printing inks, varnishes and additives for the manufacture of food packaging please refer to the respective „**Statement of Composition**". This information is provided to allow the calculation of possible levels of migration of evaluated substances in a worst case situation.

Migration tests at **hubergroup** laboratories with printed samples made from commercially available OPP film (film thickness: 35 u, printed wet ink: 6 g/m², with 95 % ethanol as the food simulant) and PE film (film thickness: 50 u, printed wet ink: 6 g/m², with 95 % ethanol as the food simulant) showed no migration of substances above legal limits. Based on the results of these migration tests, we expect that the printed inks enable the final printed products to comply with the legal requirements for packaging for all kinds of foodstuff.

The manufacturer of the finished article and the filler have the legal responsibility to prove by appropriate migration testing that it is fit for its intended purpose.

In order to maintain low residual solvents concentration in the printed film, the printer must ensure sufficient drying of the product, especially when retarders have been added. Residual solvent content must be regularly monitored.

The products must not be used in the manufacture of packaging where the printed ink layer is intended to come into contact with foodstuff (direct food contact).

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There are restrictions for the use of printing inks for applications where temperatures above 100 °C for extended periods of time are applied. For details, please see document "Food Packaging Inks for High Temperature Applications".

Health & Safety

The material safety data sheets contain all relevant information for the generation of appropriate internal plant instructions. The user is responsible for all local legislation requirements.

Ink Handling

Please refer to General Guidelines for handling inks for flexible packaging.

Storage Conditions

Store the material in the original packaging at a temperature not below 10°C and not in direct contact with sunlight.

Storage Precaution: in the event of storage at temperatures lower than the minimum specified, some components of this product(s) may crystalize or agglomerate. To reverse this phenomenon and dissolve the solidified components, please store the product at 20° C for some hours and stir well with a mechanical stirrer with adequate sheer strength, until the product is homogeneous again. Your local Technical Support can advise on special measures to deal with specific situations.

Contact addresses for advice and further information can be found under www.hubergroup.com

Due to the many variables in materias for printing, design construction, processing conditions and test criteria, this Technical Data Sheet can only be of an advisory nature. Our data reflect the latest state of our knowledge and are based on the characteristics established in the laboratory and on practical experience. Because there are many factors under the control of the user which may affect processing or application/use, it is necessary for the user to carry out appropriate tests to determine whether the product(s) is technically and safely suitable for the particular purpose, prior to use. hubergroup disclaims any liability for applications for which this ink series is not foreseen. No warranties of any kind, either expressed or implied, are made regarding the products here described. The English version is the master document, on which to refer for any translations.