



Gecko[®] Frontal Plus

Solvent based printing inks for flexible packaging
Surface printing

Description

A full colour range of highly pigmented nitrocellulose plurisolvent printing inks designed for surface printed applications on papers and flexible films, supplied as finished products or for use as mono component concentrates and additives within an ink dispenser formulation.

Printing Process

Flexographic and gravure printing.

Applications

Surface printing.

Suitable for food and beverage flexible packaging.

Substrates: Paper, Metalized primed Paper, NC-tr. Aluminium, Primed Aluminium, Acrylic-coated. BOPP.
It may also be printed over a wide range of films if a suitable white or primer has first been applied.

Properties

Adhesion	5	Water resistance	4
Rub resistance	4	Deep freeze resistance	4
Scratch resistance	4	Vegetable oil resistance	4
Heat resistance	160° C - 180° 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.

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	10% max	Ethoxy Propanol	5% max

Auxiliaries

- Metallics:** A full range of Gecko imitation gold and silver inks is available.
- Additives:** Gecko Frontal Plus is not designed to give adhesion when printing directly on metalized paper, aluminum, OPP and PE films. For printing on films and aluminum appropriate primers are available. A full range of additives is available to modify the characteristics of Gecko Frontal Plus.
- Lacquers:** For modification of surface properties a wide range of lacquers is available.

Gecko Frontal Plus inks from Concentrates

With mixing stations or other equipment, it is possible to produce ready-made Inks of the Gecko Frontal Plus Series using the concentrates of the Gecko Base Series and the appropriate System Additive Gecko Frontal Plus (00GP245913).

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

- 20% of System Additive GFP (00GP245913)
- 60% of Gecko Base products (Colour Concentrates and NC varnish 00GB274057).
- 20% 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 PE film (film thickness 50 µ, printed wet ink 6g/m², with 95% ethanol as the food simulant) and Paper (Uniset type, printed wet ink 6 g/m², Tenax® as 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).

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 5°C and not in direct contact with sunlight.