



## Gecko® General Guidelines for handling inks



### Ink selection

Various parameters must be taken into consideration when selecting the right ink series or suitable products for the print job. All relevant parameters concerning the printing process, such as the cylinder configuration, anilox roller, press speed, drying parameters, ink transfer rate, lamination technology and postprint finishing process must be available. It is equally important that you have all the necessary information regarding the packaging, i.e. the printing substrate, the structure of the laminate and the end use of the product. Particularly to be considered are the special technical and legal requirements for the production of food packaging. Furthermore, the inks should be selected based on an analysis of an entire range of applications in the printshop, so that it is possible to work with a range of products that is as standardised and cost-effective as possible. The correct ink for the respective substrate, application and production process and the technical properties must be confirmed by carrying out pre-production tests.

### Ink formulation

Gecko® ink products can be supplied as ready-to-use inks or as separate components for mixing. In both cases, the usage and formulation guidelines laid down by the **hubergroup** must be complied with in order to ensure the correct product technology is used and the desired end results are obtained. The use of additives to modify standard ink technologies must be correctly documented prior to print production. The different application ranges and properties of the Gecko® ink additives can be found in the respective Technical information sheet on additives.

### Pigment selection

The majority of print jobs can be run with standard pigments. If the application requires that the ink has particularly high fastness and resistance properties, this must be specified prior to beginning print production so that the correct pigments and ink technology can be selected.

### Mixing inks

All inks must be mixed thoroughly prior to print production. This is essential to ensure the consistency of colour and intensity, correct viscosity control and a homogeneous mixture of the various ink components throughout the entire production process.

### Print viscosity

The printing ink viscosity should be controlled prior to print start-up and continuously during print production. To maintain the correct print viscosity throughout the production run, use a balanced solvent mixture as specified in the Technical information sheet.

### Storage conditions

All solvent-based inks should be stored at a temperature of between 10 °C and 25 °C. Bear in mind the fact that higher temperatures will lead to a decrease in viscosity. In general, all viscosity measurements should be carried out at the same temperature, preferably between 20 °C and 25 °C.

## **Shelf Life**

Unopened readymade inks and compounds for ink mixing have a shelf life of up to 12 months, metallic inks have a shelf life of 6 months. After longer storage time, unopened products should be checked prior to use. As a general rule, the pigments in metallic inks will settle to the bottom of the can within just a few weeks. For this reason, you should always stir such inks thoroughly prior to use.

## **Additives**

The addition of additives alters the composition and properties of the inks and therefore their suitability for various substrates and applications. The Technical information guidelines relating to modifying standard inks must be followed rigidly (see the Technical information sheet on Gecko® Additives, 11.4.00 E). The use of Gecko® Additives in Gecko® products has no influence on the information given in the „Instructions for the use of printing inks for the production of primary food packaging“, provided that the additives are strictly used according to the recommendations in the respective technical data sheet.

## **Ink dilution and solvents**

Imbalances in solvent blends of the printing inks caused by incorrect solvent additions or a high level of evaporation during low ink consumption will have a negative effect on the final technical properties of the ink and the print quality. When ink consumption is low, the dilution solvent should contain a certain amount of ester (such as ethyl acetate or n-propyl acetate) in order to ensure the solubility of the various ink components. For flexo printing, the amount of ester should be limited to max. 10 %.

## **Retarders**

Excessive additions of retarders or slow-drying solvents may have a negative impact on blocking conditions, lamination bond strength and solvent retention. This must be taken into account when considering the final application.

## **Ink colour strength**

Adjustments to colour and colour strength must be carried out with finished ink products at print viscosity. Any adjustments to the print viscosity after colour approval may influence the final result. For any larger reduction in colour strength, we strongly recommend the use of the appropriate extender instead of solvent.

## **Ink compatibility**

While most nitrocellulose-based inks are compatible with each other, cross mixing with other ink series or contamination of specified ink types must be avoided in order to maintain the correct technical properties for the final application.

## **Ink/press wash-ups**

All ink residues in the press can be easily cleaned up with the diluting solvent specified for that particular product. These press washings must not, however, enter the press return ink ('left-over ink') in quantities higher than 10 % as this will have a negative effect on print quality when the return ink is reused.

## **Substrate quality**

All Gecko® inks are designed for performance on a large range of substrate types. The quality of the substrate and the surface to be printed should be checked prior to print production. In case of OPP films, it is generally recommended that you ensure a sufficient corona treatment of the surface to be printed.

## **Pre-production checks**

We strongly recommend print material be checked with regard to the basic requirements of colour, gloss, ink adhesion, heat resistance, coefficient of friction and mechanical resistance prior to beginning print production.

## **Weather conditions**

Print production during warm and humid periods can lead to additional risks relating to ink adhesion and blocking of the printed reels. This should be considered prior to print production, taking into consideration the drying conditions, the blend and drying speed of the solvents used, the water content in the ink and the substrate and the production press winding tensions.