



MGA CORONA[®] Gold

Low migration sheet-fed offset printing inks
for food packaging

Consumer protection demands that packed foodstuffs not be contaminated by packaging components.

Consequently, no substances are allowed to transfer from substrates, printing ink and coating films to the packaged food in quantities that exceed the legal limits.

As a responsible partner of the printing industry, the **huber**group has developed new sheet-fed offset inks that are not only organoleptically neutral, but also offer low migration.

CORONA-MGA printing inks are formulated using only components that do either not migrate or which have been evaluated for food contact. This distinguishes them significantly from standard sheet-fed offset inks.

Inks available

One-component inks

MGA CORONA Gold is supplied ready to use. The advantage of one-component inks is to be found in their uncomplicated handling, because there is no need to mix the paste and varnish as is the case with two-component systems.

MGA CORONA Rich Gold	46MGA8000
MGA CORONA Rich Pale Gold	46MGA8100
MGA CORONA Pale Gold	46MGA8200
and the following PANTONE metallic decorative inks	
MGA CORONA PANTONE Gold 871	46MGA8871
MGA CORONA PANTONE Gold 872	46MGA8872
MGA CORONA PANTONE Gold 873	46MGA8873
MGA CORONA PANTONE Gold 874	46MGA8874
MGA CORONA PANTONE Gold 875	46MGA8875
MGA CORONA PANTONE Gold 876	46MGA8876

Two-component inks

MGA CORONA Rich Gold paste	46MGA8050
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MGA CORONA Rich Pale Gold paste	46MGA8150
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MGA CORONA Pale Gold paste	46MGA8250
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MGA CORONA Gold vehicle	10MGA8020
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Other shades available on request

We recommend a mixture ratio of 45% paste and 55% vehicle

Mixing instructions for two-component inks

The gold ink is mixed from pigment paste and vehicle immediately prior to starting the print run. When mixing, the paste should be added to the vehicle and not the other way round. When preparing the ink, care must be taken not to „overstress" it, i.e. the components must be mixed as gently as possible. High-speed agitators and excessive heating of the ink during mixing have a negative effect on its quality and must therefore be avoided at all costs (max. temperature 60 °C). If the conditions cited above are complied with, you will obtain very good metallic effects.

We recommend you use a vibration or biaxial mixer (mixing time for 2.5 kg: max. 2 - 3 minutes, longer mixing times of small quantities could exceed the temperature limit of 60 °C) for mixing the two components and to prevent contamination. If you require assistance, we can provide the names of manufacturers of suitable equipment.

To prevent contamination through conventional inks and coatings/varnishes, only ever use absolutely clean equipment and tools. Use suitable wash-up solutions. When using water-miscible wash-up solutions, water has to be used for the final wash-up step.

Properties

- Sheet-fed offset printing inks for printing the non-food contact surface of food packaging made of paper and board
- Very low migration
- These inks dry solely through setting and not by oxidation
- Relatively slow setting speed
- Results of taint and odour testing of printed products are excellent („Robinson tests" EN 1230 Part 1 and Part 2).

Technical application

Printing behavior has to be tested in practice under actual condition (printing press, etc.). The inks are still under construction.

Since the ink does not dry by oxidation and sets relatively slowly, inline finishing with water-based coating is essential. Substrates with a low level of absorptivity necessitate the use of special water based coatings. Without inline coating, there will be setoff in the stack and the required rub resistance will not be obtained.

ACRYLAC MGA water-based overprint varnishes have been developed to meet the requirements of the production of food packaging printed with MGA CORONA inks. The same is also true for fount concentrates and printing auxiliaries.

Application instructions

The best metallic effect is obtained on coated stocks that have a uniform, smooth surface. In view of the fact that the systems possess excellent coverage properties, it is neither recommended nor necessary to try to enhance the effect by increasing the ink delivery. As a rule, this simply leads to printing problems such as piling on the press, poor stackability, long drying times and insufficient smudge resistance.

Metallic pigments are susceptible to corrosion. Brass pigments (gold inks) change their hue, turning a dirty brownish colour and becoming matt in the process.

Dampening / Fount solution composition

Delivery of the fount solution on the press must be kept to an absolute minimum - particularly when the level of ink application is low - in order to prevent excessive emulsification and the poor coating quality associated with this.

The isopropanol concentration in the fount solution when using COMBIFIX-MGA must not exceed 10 % at a pH value of 5.0 - 5.4.

The **hubergroup** has developed fount concentrates for use specifically with these products:

- **COMBIFIX-MGA 8060** (for printing with IPA)
- **SUBSTIFIX-MGA 8360** (for printing without IPA)

ACRYLAC-MGA water-based coating

The following coatings have been developed specifically for finishing CORONA-MGA inks:

- Glossy and rub-resistant coating for single-sided coating: **ACRYLAC-MGA Gloss S 58G1300**
- Wet-blocking-resistant and rub-resistant coating: **ACRYLAC-MGA Gloss 58G1000**

If required, other coatings with additional special properties can also be supplied.

Printing auxiliaries / Ink mixtures

To reduce ink tack, use only **Print oil 10MGA1405C** or **Paste reducer 10MGA9998C**. Under no circumstances may conventional printing ink oils, paste reducers or the like be used.

MGA CORONA inks may only be mixed with other MGA inks. Driers or drying accelerators shall not be added, under no circumstances, because this would lead to the development of strong-smelling decomposition products.

Post print finishing

The waiting time before the print sheets can be further processed is similar to that for conventional inks. It depends on the quality of the substrate. Tests should be carried out in specific cases prior to beginning a production run.

Roller treatment / Wash-up

Due to the negative effect on printed packages with respect to odour and taste, the press rollers must not be sprayed with **Anti-drier 10T1220** or **INKFIT 10T3303**. After washing the rollers, leave them to dry well.

Finishing instructions

When finishing metal-pigmented offset inks - by coating with ACRYLAC or lamination - adhesion problems can arise between the ink film and the finish. These are caused by stabilisers and lubricants that have to be added during pigment production and which adhere to the metal pigment surface. We therefore recommend you to test the coating for reticulation and adhesion characteristics between the

ink film and the finish thoroughly prior to beginning the print run. The converter must be informed of the fact that the print to be finished has been produced using metallic inks.

Special instructions

Metal pigments are sensitive to moisture and especially so to acids or alkalis. For this reason, residual amounts of ink from the ink duct should not be stored again. The contained dampening solution can cause gases of residual ink. Further details on the application and properties of CORONA-MGA inks can be found in Technical information sheet MGA CORONA 5100.

Classification

Safety data sheet available on request.