

Technical Information

50.M.003 | Radiation-curing Systems | Ink Series, Process Inks



NewV[®] poly MGA metallic inks

UV metallic sheet-fed offset inks on non-absorbent substrates,
for food packaging, confirm with the EuPIA Exclusion Policy

NewV poly MGA metallic inks are designed for the use on the non-food contact side of food packaging. They are also suitable for outer packaging when the inner packaging layer does not have the right barrier properties to prevent migration from the ink/varnish layer into the foodstuff. They are also recommended for further applications where the migration of substances needs to be avoided, such as cosmetics or pharmaceutical products.

NewV poly MGA metallic inks show very good adhesion on non-absorbent substrates. They are suitable for UV-sheet-fed offset, UV rotary label (letterpress) and UV narrow web printing with standard mercury lamp curing unit.

Two-component systems – PANTONE colour shades		
Description	Sales code	Mixture share
Gold PANTONE 871 – 876		
NewV poly MGA - 2K Gold varnish PANTONE 871	40UP0871M	55%
MGA CORONA Reichgoldpaste	46MGA8050	45%
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NewV poly MGA - 2K Gold varnish PANTONE 872	40UP0872M	60%
MGA CORONA Reichgoldpaste	46MGA8050	40%
NewV poly MGA - 2K Gold varnish PANTONE 873	40UP0873M	55%
MGA CORONA Reichbleichgoldpaste	46MGA8150	45%
NewV poly MGA - 2K Gold varnish PANTONE 874	40UP0874M	60%
MGA CORONA Bleichgoldpaste	46MGA8250	40%
NewV poly MGA - 2K Gold varnish PANTONE 875	40UP0875M	60%
MGA CORONA Reichbleichgoldpaste	46MGA8150	40%
NewV poly MGA - 2K Gold varnish PANTONE 876	40UP0876M	60%
MGA CORONA Bleichgoldpaste	46MGA8250	40%
Silver PANTONE 877		
NewV poly MGA - 2K Silver varnish PANTONE 877	40UP0877M	65%
MGA CORONA Silberpaste	46MGA9050	35%

Substrates

The **NewV poly MGA metallic inks** are suitable for:

- Pre-treated, non-absorbent substrates such as PE, PET, PP, BOPP, PVC, PS, etc.
- Aluminized paper and cardboard¹ stocks
- Aluminium foils¹

¹ Non-absorbent substrates must have a surface tension of at least 38 mN/m in order to ensure optimum ink adhesion. We generally recommend running an adhesion test before beginning the actual print run.

Application

Considering the variety of substrates in the market, we recommend to carry out adequate testing before starting the commercial production.

The adhesion of UV curing inks and varnishes to plastic films, cast-coated stocks and pre-treated metal surfaces may be negatively influenced by separating agents, lubricants or plasticisers adhering to these surfaces (especially plastic films). We do explicitly not recommend printing on metal surfaces that are not pre-treated, due to unfavourable adhesion characteristics between the UV ink/varnish film and the substrate surface.

Favourable results of the adhesive (Scotch) tape test do not necessarily imply good scratch resistance (fingernail test). In such cases the application of a UV curing varnish can help to improve the scratch resistance. As mentioned above, we recommend carry out adequate testing before you start the commercial print run, due to the wide range of substrates with different properties available on the market.

As always in case of UV Printing, the amount of fount solution should be kept as low as possible to avoid emulsion and ink water balance problems.

To obtain a perfect metallic effect, the pH-Value cannot be lower than 5.5.

Mixtures of metal pastes and UV-curing varnishes tend to polymerise (cure) very quickly. For this reason, they need to be mixed right before the printing starts, not sooner. After mixing two components together, the print has to start.

The cured ink film is organoleptically neutral. It will not change the scent, taste or the colour of the foodstuff. However the fact that the substrates provide odour after passing under the UV lamp, has to be taken into account. This increased odour can be sensed after the curing process.

Please consider that highly absorbent stocks can significantly reduce the curing speed.

As always in case of UV printing, the amount of fount solution should be kept on the minimum to avoid emulsification and ink/water balance problems.

We do explicitly not recommend use the printing press in dual-mode (alternating use of specific inks/varnishes for food packaging and standard inks/varnishes which are not recommended for packaging). Even after careful cleaning, the blankets, rollers and pipes will release substances which were absorbed while standard inks were used. This would cause cross-contamination and negatively affect migration testing results.

In order to provide improved protection to the print, we recommend applying UV Varnish for food packaging. For further information please find technical information sheets NewV lac MGA varnishes and the technical information sheet *50G001 UV curing inks and varnishes for offset printing – Direction for use* on the **hubergroup** website.

Postprint finishing

The best metallic effect is obtained only on coated stocks that have an even, smooth surface, because of the reflexion of the light:



The metallic effect cannot be enhanced by increasing the ink thickness. This simply leads to printing problems like piling, poor curing, very low smudge and rub resistance.

A rule, especially for solid image areas: never print silver ink from the last unit. Smoothing out the print with passing under an additional blanket before curing helps to enhance coating quality.

These UV metallic inks are suitable for inline or offline UV varnishing, but please consider, the application of UV varnish or lamination significantly reduces the metallic effect.

If the print is to be laminated, prior tests are always necessary before the printing run. UV prints (without UV varnish) are not suitable for gluing, blister packaging, hot foil stamping, etc.

Adhesion problems arise very often during post-print finishing of metal-pigmented offset prints. In this case, we recommend you to carry out pre-production adhesion and scratch resistance test.

Auxiliaries

The **NewV poly MGA metallic inks** are ready to use products. In case small adjustments are needed for special requirements, please find the recommended additives in our technical information sheet: *NewV sup_Auxiliaries for UV food packaging printing_offset*. Only **hubergroup** auxiliaries which are explicitly recommended for food packaging are allowed to be used to safeguard the migration properties of the ink.

For the same reason we recommend special fountain solution concentrates for printing of food packaging. For further information, please see the Technical Information sheet *50.F.002 NewV fix fountain solutions for UV-curing printing inks for food packaging*.

Never use additional photoinitiators or photoinitiator pastes for these products. Never add anti-drying or anti-skin additives to the ink.

Food packaging

Regulation (EC) No 1935/2004 requires that materials and articles which, in their *finished* state, are intended to be brought into contact with foodstuffs or which are brought into contact with foodstuffs, must not transfer any components to the packed foodstuff in quantities which could endanger human health, or bring about an unacceptable change in the composition or deterioration in organoleptic properties.

Provided that our products cited above are used in accordance with the information given in our technical information sheets and correctly processed and cured, and provided that the food packaging is designed in a way that there is no intended food contact with the print, we hereby confirm that our products will in principle allow compliance of the final product with Regulation (EC) No. 1935/2004.

- The **hubergroup** products cited above are formulated and manufactured in compliance with the EuPIA "Good Manufacturing Practices (GMP) – Printing Inks for Food Contact Materials" published by EuPIA, the European Printing Ink Association.
- To prevent any contamination with components from conventional inks, the NewV MGA products are manufactured in a separate production area specifically designated for this purpose.
- The products are compliant with section 12 ("Druckfarben") of the Swiss Ordinance 817.023.21 (Verordnung des EDI über Bedarfsgegenstände vom 23. November 2005.).

The manufacturer (printer, converter) of the packaging and the filler who puts the foodstuff into the packaging have the legal responsibility to verify that the finished product fulfils the legal and industrial requirements. Migration testing with suitable food simulants is recommended, particularly in cases of high ink coverage, light weight substrates, or in cases where the packaging/foodstuff ratio differs considerably from the "EU cube" model assumption of 6 dm²/1kg (the "EU cube").

To allow other members of the packaging chain to assess compliance of the printed packaging with the Framework Regulation (EC) No.1935/2004, the Plastics Regulation (EU) No. 10/2011 and/or the Swiss Ordinance 817.023.21, the "Statement of Composition" (SoC) is available on request. Please note that when carrying out a risk assessment, paper, board and many plastic materials, like PE or PP are not sufficient barriers for migratable substances from UV curing inks and varnishes.

More information on the subject of packaging for food, cosmetics, pharmaceutical products and tobacco can be found in the information sheet *50.G.002 NewV MGA products _UV inks and varnishes for food packaging*. Please also find information on the webpage of the European Printing Ink Association: www.eupia.org.

Light fastness

The ready-mixed colours have a light fastness of 8.

Shelf life

The minimum shelf life of these single components is 18 months from the production date, if the container is not opened. Dependent on the storing and handling conditions, the products may be usable much longer.

Further information: Store between 5 - 25°C. Higher storage temperature may reduce shelf life. Protect from frost and sunlight. The cans need to be closed back immediately after usage.

Packaging

2.5 kg cans with 1.4 kg varnish