



MIRACLE Gold and Silver

Heavy-metal-free gold inks

Low-aluminium silver inks

Application

Metallic-effect printing inks open up great possibilities for the design of a print job. Particularly in segments such as high-quality labels, brochures and packaging, they enable printers to create and produce excellent effects.

Gold effects are produced by using pigments based on brass, an alloy of copper and zinc, whereas silver effects are achieved using aluminium pigments.

An alternative to these traditional gold and silver inks can now be found in the ALCHEMY MIRACLE gold and silver inks from the **hubergroup**, which are based on specially developed aluminium pigments. These pigments are manufactured by coating a carrier film with aluminium by means of vapour deposition (in vacuum) and then peeling the aluminium film (approx. 1/200 µm) off the carrier film. This creates extremely fine platelets with a mirror-like surface and minimal film thickness.

The complex manufacturing process is extremely cost-intensive and, when all things are said and done, the reason why these products are so expensive.

MIRACLE Gold and Silver are mineral oil based. There are not recommended for the manufacture of food packaging.

Processing

Compared with standard gold and silver inks, ALCHEMY MIRACLE inks offer better rub and smudge resistance on uncoated and matt-coated substrates. The best metallic effect and gloss are obtained on coated stocks that have a uniformly smooth surface.

Surface finishing always results in a reduction of the metallic effect. The best solution is to coat the print with ACRYLAC water-based coating.

ALCHEMY MIRACLE Gold and Silver

A special process for incorporating the pigment particles in the ink and special binders form the basis for formulating top-quality, heavy-metal-free offset printing inks.

These inks stand out thanks to their outstanding brilliance and very good coverage properties (opacity) that result from the extremely smooth and highly reflective surface of the aluminium particles. The fineness of the particles means that the pigment content can be greatly reduced compared with conventional gold and silver inks. That leads to improve transfer characteristics, the printability of ALCHEMY MIRACLE inks being somewhat better than that of conventional gold and silver inks. At the same time, this fact also means the pollutant load of the waste water when removing labels using a lye solution is reduced considerably.

We recommend the following one-component gold inks for sheet-fed offset:

Name	Sales number	Fastness properties per ISO 12040 / ISO 2836			
		Light BWS	Alcohol	Solvent mixture	Alkali
ALCHEMY MIRACLE Gold	46 AM 2500	8	+	+	-
ALCHEMY MIRACLE Silver	46 AM 3200	8	+	+	-

ALCHEMY MIRACLE gold and silver inks should be printed on films or film-like substrates without prior testing, because adhesion problems can arise depending on the substrate.

Hues

Hues such as Rich Gold and Pale Gold cannot be produced with ALCHEMY MIRACLE gold due to the different pigment base. Toning with colour pigments reduces the brilliance of the aluminium particles, which explains why only a small proportion of these toning components are used in ALCHEMY MIRACLE Gold.

Finishing instructions

The adhesion problems frequently observed with conventional gold and silver inks when finishing by coating with ACRYLAC, laminating or UV varnishing arise far less with ALCHEMY MIRACLE inks. This is where their lower pigment content compared with conventional gold and silver inks is a definite advantage. Nevertheless, we recommend you test the coating/varnish-trapping and adhesion characteristics between the ink film and the finish thoroughly prior to beginning the print run.

Special instructions

Due to the extremely fine thickness of the aluminium pigments used, ALCHEMY MIRACLE products are particularly sensitive to moisture and especially so to acids and lyes. For this reason, ink left over in the ink fount (pan) after completion of the print run must not be kept for re-use, because the fount solution it contains can cause the left-over ink to produce and give off gases.

Classification

Safety Data Sheet available on request.