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Novaflash® HIGH GLOSS Metallic Inks

High Gloss one-component Metallic Ink series with excellent metallic effect

Spot inks for sheetfed offset

Product features

- Novaflash® HIGH GLOSS are mineral oil based, wax containing and stable one-component sheetfed offset metallic inks for paper and board, based on leafing gold and aluminium pigments. The series includes the colour shades Rich Gold 2505, Rich Pale Gold 2510 and Pale Gold 2515, as well as the Pantone® colour shades 871-877.
- The series is ideally suited for straight-line printing on all multi-colour printing presses. Due to its small particle size in comparison to standard metallic pigments, Novaflash® HIGH GLOSS metallic inks have superb transfer characteristics and feature excellent printability - especially on high speed presses. Additional advantages of the series are high brilliance and a strong metallic effect.
- Due to the leafing properties of the metallic pigments used, Novaflash® HIGH GLOSS have a low rub resistance. This can be improved by the application of an adequate oil-based varnish or water-based coating.

Advantages of Novaflash® HIGH GLOSS Metallic Inks

- Ready-to-print.
- Strong metallic effect and gloss.
- High brilliance.
- Excellent printing performance on high speed presses.
- Ideally suited for gloss coated papers and board.

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Novaflash® HIGH GLOSS

		Fastness properties			Printing properties								
		Alcohol	Solvent mixture	Alkali	Halftone printing	Gloss	Setting	Oxidative drying	Rub resistance	Rapid further processing	Suitability for gloss coated papers/board	Suitability for uncoated papers/board	Suitability for matt coated papers/board
Novaflash® HIGH GLOSS Metallic Inks	**Product code**				**4**	**6**	**4**	**4**	**1**	**3**	**7**	**3**	**5**
Rich Gold 2505	**VI89-ASDD**	+	+	-	1 = Characteristic weakly expressed 7 = Characteristic strongly expressed								
Rich Pale Gold 2510	**VI89-ASED**	+	+	-									
Pale Gold 2515	**VI89-ASFD**	+	+	-									
220 871 Pantone 871	**VI89-AP1D**	+	+	-									
220 872 Pantone 872	**VI89-AP2D**	+	+	-									
220 873 Pantone 873	**VI89-AP3D**	+	+	-									
220 874 Pantone 874	**VI89-AP4D**	+	+	-									
220 875 Pantone 875	**VI89-AP5D**	+	+	-									
220 876 Pantone 876	**VI89-AP6D**	+	+	-									
220 877 Pantone 877	**VI89-BP7D**	+	+	-									

Fastness properties according to ISO 2836: + = Resistance provided - = Resistance not provided

The assessment of the colour properties was made under standardised printing conditions. In individual cases, under special conditions, as in printing with very high ink densities, the classification of certain properties may be different.

Substrates

Ideally suited for gloss coated papers and board, suited for matt coated paper and board.

The substrate selection has an important influence on the achievable metallic effect. Depending on the absorption and the surface conditions, the metallic effect can be reduced more or less. Optimal results are normally achieved on coated substrates, however, care must be taken that the coated stock is of good quality.

Some substrates may look attractive, but cause strong penetration of mineral oil and binding agents. The result may be a large amount of unwetted metal pigments on the print surface, which may cause drying and abrasion problems.

To achieve best possible results on a less than ideal substrate, an adequate primer can be pre-printed in a sufficient film thickness. This should be checked before commercial production starts.

You are welcome to contact us for further information.

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Storage and shelf life

Metallic inks should be stored at temperatures of around 25 °C, as high temperatures may cause oxidation which could lead to a decrease in brilliance. The tins should be kept closed whenever possible, as unnecessary opening results in oxidation.

Used ink from the duct must not be refilled into the tin. Mixed fountain solution can react with the aluminium particles of the metallic ink and create gas.

Meeting the recommended storage conditions, Novaflash® HIGH GLOSS metallic inks will remain stable for a minimum of 12 months from the date of manufacture.

Fountain solution

We recommend using Hydrofast® GS 307, dosed at 2-3% with additional 8% Isopropanol.

Additives

To improve drying, 3-5% drying paste Novaspot® 3107 may be added. However, this should be introduced immediately before commercial production starts, because the longer the resting time the greater the chance of oxidation and the more the brilliance will suffer.
If the substrate requires the tack to be reduced, up to 3% printing oil L may be added.

Exceptions

Not for use for food packages without functional barrier.

Special Notes
Print Finishing

Within the print finishing, attention must be paid to the fact that metallic inks have restricted intermediate adhesion to varnish systems and other components. This is caused by the leafing characteristics of the metallic inks, which means that the metallic particles in combination with the fountain solution travel to the surface of the printed ink film. To improve the intermediate adhesion, 15-20 % gold varnish 154 284 may be added into the gold ink and 15-20 % silver varnish 6 S 102 may be added into the silver ink.

With finishing methods such as sealing and laminating the same additives in the mentioned dosages can be used. The finishing process must first be coordinated with the finishing company.

Important for a successful finishing is the drying status of the ink. Please note, that the time until the ink is completely dried depends upon various factors e.g. substrate and printing conditions (water feed). To evaluate the point at which finishing can be started, measuring the surface tension can be helpful. The surface tension should not be less than 35 mN/m.

In many cases it is recommended to use a primer e.g. Novaset® 4510/40 Offline-Primer from Flint Group. In any case a finishing test should be made before commercial production starts.

Any kind of finishing causes a reduction of the metallic effect.

To achieve safe finishing with UV coating, sealings and lamination, we recommend the use of non-leafing metallic inks like e.g. Novaflash® Silver 6 S 170 NON-LEAFING, Novaflash® Richgold 2105 NON-LEAFING and Novaflash® Richpalegold 2110 NON-LEAFING.

Resistance Characteristics

In general metallic inks do not have alkali fastness, but they can actually be varnished with a suitable water-based coating. For overprint varnishing, we recommend Novaset® Gloss Coating 4216/40.

Gold shade metallic inks are a copper-zinc composition with different formulations depending on shade. These compositions can interact with different raw materials which can cause undesirable colour shade deviations up to the complete elimination (greening) of the metallic pigments. It is recommended to evaluate all components involved into the production process, even after the printing process on it's own.

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Printability

Due to its small particle size in comparison to standard metallic pigments, Novaflash® HIGH GLOSS metallic inks have excellent transfer characteristics and feature excellent printability - especially on high speed presses.

Environmental influences in the print room are of major importance. The temperature and air humidity can influence the ink balance and thus the printability.
Ideally, systems for the control of air humidity and temperature should be installed in the area around the printing press. The printing press itself should not be exposed to direct sun light.

The pH-value of the fountain solution must be in a neutral range in order not to reduce the brilliance and drying. A pH-value around 5.5 is recommended. An addition of up to 8% Isopropanol has a positive effect on drying and printability.

Metallic inks can be printed wet-on-wet with other inks: the tack of the following inks should be lower, and the inks should not be high-gloss. The metallic ink should be printed in the 1st unit, the following overprint ink should be printed – if possible – in the last printing unit. As overprint Black we recommend Novavit® Black 133 RTW.

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