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Novasens[®] Metallic PREMIUM

Low-odour and low-migration metallic ink series

Spot inks for sheetfed offset

Product features

- Novasens[®] Metallic PREMIUM is a low-odour, low-taste and low-migration one-component sheetfed offset metallic ink series, developed especially for sensitive food and tobacco packaging applications, where there is no direct contact between the printed image and the contents of the package. The series includes the colour shades Rich Gold, Richpale Gold, Pale Gold and Silver.
- Novasens[®] Metallic PREMIUM is ideally suited for straight-line printing on all multi-colour printing presses. The advantages of the series are high brilliance and very good printability.
- Novasens[®] Metallic PREMIUM is particularly suited for the production of packaging that complies with the requirements of the EU-regulation 1935/2004 and 2023/2006 as well as with the Swiss Ordinance 817.023.21. Additionally the series meets the requirements of the EuPIA Guideline "Printing Inks applied to the non-food contact surface of food packaging materials and articles". Mineral oil is not used as an intentional formulation component of this series.

Advantages of Novasens[®] Metallic PREMIUM

- Low-odour and low-migration.
- The series complies with the requirements for printing inks for food packaging (according to EuPIA Guideline).
- Low swelling.
- High brilliance
- Very good printing performance.
- Ideally suited for gloss coated papers and board.

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Novasens® Metallic PREMIUM

		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
Novasens® Metallic PREMIUM	Product code				4	4	3	0	1	2	7	3	5
Rich Gold similar to PANTONE® 871	VI37-ARGN	+	+	-	1 = Characteristic weakly expressed 7 = Characteristic strongly expressed								
Rich Pale Gold similar to PANTONE® 872	VI37-ARPN	+	+	-	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.								
Pale Gold similar to PANTONE® 873	VI37-APGN	+	+	-									
Silver similar to PANTONE® 877	VI37-BSIN	+	+	-									
		Fastness properties according to ISO 2836: + = Resistance provided - = Resistance not provided											

Remarks

Novasens® Metallic PREMIUM is particularly suited for the production of packaging that complies with the requirements of the EU-regulation 1935 (2004) and 2023 (2006). Additionally the series meets the requirements of the EuPia Guideline „Printing Inks applied to the non-food contact surface of food packaging materials and articles“.

Substrates

Ideally suited for coated papers and board in combination with inline water-based coating.

We recommend testing the suitability of the substrate for the printing of food packaging.

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 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 hydrogen.

Meeting the recommended storage conditions, Novasens® Metallic PREMIUM inks will remain stable for a minimum of 12 months from the date of manufacture.

Fountain solution

We recommend using Varn® Supreme.

Additives

Never add driers to the inks or fountain solution.

If there is a need for tack reduction, for example when printing on sensitive substrates, use only special Novasens® PREMIUM Reducer or Novasens® PREMIUM Reduxpaste.

Special Notes

Print finishing

Novasens® Metallic PREMIUM, as a low-odour and low-migration Metallic ink series dries only by penetration. We therefore recommend additional coating with a water-based coating (Novaset® 4216/40 Gloss Coating or Novaset®4400/40 Matt Coating.). The nip volume of the Anilox rollers should not be less than 13cm³.

Any kind of finishing causes a reduction of the metallic effect. In this context we would like to point out, that due to the special low-migration and organoleptically neutral varnishes, the wetting of the metallic pigments is advanced and more critical. A low-migration metallic ink cannot achieve the same metallic effect and brilliance as a conventional metallic ink.

The drying status of the ink is very important for successful finishing. Please note, that the time taken until the ink is completely dry depends upon various factors, e.g. substrate and printing conditions (water feed), and is additionally influenced by the relatively slow setting of the Novasens® Metallic PREMIUM.

Heating of printed packaging in the oven has to be carefully considered due to the potential appearance of temperature peaks. In contrast, microwave heating of packaging without acceptor laminate is non-critical. Generally the heating of packaging to temperatures exceeding 200 °C must be avoided.

Due to the drying characteristics of low-odour inks the suitability for hot foil stamping should be tested before starting a print run.

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® 4216/40 Gloss Coating or Novaset®4400/40 Matt Coating.

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 its own.

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Printability

In case the printing press was previously running with conventional inks, it should be thoroughly cleaned and all ink residues have to be removed before printing with low-migration ink. Please use suitable washes. Thorough rinsing with clean water is necessary.

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.

Metallic inks can be printed wet-on-wet with other inks: the tack of the following inks should be lower, and the ink 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 Novasens® P660 PREMIUM Black.

Certificate

A copy of the Isega certificate is available upon request.

Corresponding products

Process ink Novasens® P660 PREMIUM, base colour ink series Novasens® BCS PREMIUM. Novaset® 4216/40 Gloss Coating or Novaset®4400/40 Matt Coating.

Further information

For further information on this topic please refer to our Technical Reviews “Sheetfed offset inks for food packaging” as well as “Good manufacturing practice food packages”.

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