Technical data sheet

Maragloss GO

For PVC self-adhesive foils, soft and rigid PVC, polycarbonate, PETG, PETA, acrylics

Gloss, good opacity, fast drying, vacuum-formable, flexible

Vers. 02
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Field of application

Substrates

The Maragloss GO screen printing ink is suited for rigid and soft PVC, PVC self-adhesive foils, polycarbonate, PETG and PETA (attention when printing white!), PMMA, as well as on heavy-weight papers, pasteboard, cardboard, wood, and press-board. It is not suited for polystyrene.

Since all the print substrates mentioned may be different in printability even within an individual type, preliminary trials are essential to determine suitability for the intended use.

Field of use

Maragloss GO is a universal and flexible ink type for a wide range of applications and substrates, suited for printing speeds of up to 600 prints/h.

Due to its high flexibility, GO is especially suited for injected substrates sensitive to cracking of the ink film as well as for formed parts. When printing onto soft PVC, the block resistance must be checked by preferably putting a silk paper between the prints.

All GO colour shades are best suited for the printing of PETG and PETA. For printing white onto PETG, we recommend to use GO 070 (no Opaque White GO 170, danger of crack initiation!); in the case of PETA, please use Maraflex FX 970 White instead of GO 070.

Also for colour matches to be printed onto PETA and containing a percentage of white >50%, it is to use FX 970 for the mixing with GO colour shades.

Attention: IF Maragloss GO is used for moulding and it is necessary to print a white shade, GO 070 White must be used (no Opaque White GO 170!).

GO can also be processed with a spray gun, but preliminary trials are necessary for this process.

We recommend to filter the thinned ink (25 µm screen) before processing, as otherwise there could be bubbles in the ink film.

Characteristics

Drying

Physically fast drying, ready for overprinting after 20-30 min at 20°C, stackable after 40 sec at 50°C in a tunnel dryer. The times mentioned vary according to the print substrate, ink film thickness, drying conditions and auxiliaries used. Generally an extended drying time is necessary when overprinting the ink.

Fade resistance

Pigments of excellent fade resistance are used for all Maragloss GO shades.

Shades mixed by adding Transparent Base GO 409, Printing Varnish GO 910, or other colour shades - especially white - mostly have a reduced fade and weather resistance. The fade resistance of the ink also decreases if the density of the printed ink film is reduced.

Maragloss GO 170 Opaque White is not suited for outdoor use due to its high pigmentation. The pigments used are resistant to plasticizers and solvents.

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Stress resistance

After proper and thorough drying, the ink film exhibits an outstanding adhesion as well as rub and scratch resistance. It is highly flexible and suitable for moulding (in the case of white, we recommend preliminary trials).

In the case of a higher demand for rub and abrasion resistance, especially for double-side printing when stacked, we recommend to over-varnish with Printing Varnish GO 910. As the ink film of Maragloss GO has a thermoplastic characteristic, block resistance of heated print sheets when stacked is limited.

Range

Basic shades

(see colour chart System 21)

GO 020	Lemon	GO 055	Ultramarine Blue
GO 021	Medium Yellow	GO 056	Turquoise Blue
GO 022	Yellow Orange	GO 057	Brilliant Blue
GO 026	Light Yellow	GO 058	Deep Blue
GO 031	Scarlet Red	GO 059	Royal Blue
GO 032	Carmine Red	GO 064	Yellow Green
GO 033	Magenta	GO 067	Grass Green
GO 035	Bright Red	GO 068	Brilliant Green
GO 036	Vermilion	GO 070	White
GO 037	Purple Red	GO 073	Black
GO 045	Dark Brown		

All shades are intermixable. The Maragloss GO ink should not be mixed with other types of ink to maintain the special characteristics of this outstanding ink range.

The basic shades of this ink series are included in our Marabu-ColorFormulator. They build the basis for the calculation of individual colour matching formulas, as well as for shades of the common colour reference systems HKS®, RAL®, and Marabu System 21.

All formulas are stored in the Marabu-ColorManager 2 (MCM 2.2) software.

Further Shades

GO 170 Opaque White

Gloss and flexibility of this opaque white is reduced due to the higher pigmentation.

Fluorescent shades

(see colour chart System 21)

GO 320	Fluorescent Yellow
GO 321	Fluorescent Dark Yellow
GO 323	Fluorescent Orange
GO 331	Fluorescent Red
GO 333	Fluorescent Pink
GO 354	Fluorescent Blue
GO 364	Fluorescent Green

Fluorescent or day-glow pigments are fluorescent dyes reflecting almost 100% of the light as an inherent colour whereas the normal pigments reflect only about 50%. Due to their high transparency, fluorescent shades must only be printed onto white surfaces. If necessary, a white layer must be printed prior to applying the fluorescent shade.

Fluorescent shades are very unstable if exposed to the sunlight and are, therefore, not suitable for outdoor use. A short-term outdoor resistance can be achieved either if two fluorescent shades are printed on top of each other or by over-varnishing, or mixing 5% of a basic shade into the fluorescent shade.

The pigments used in the below mentioned standard shades, based on their chemical structure, correspond to the EEC regulations EN 71/part 3, safety of toys - migration of specific elements. All colours are suited for printing onto toys.

Additives

Bronze Binder:	GO 902
Overprint Varnish:	GO 910
Transparent Base:	GO 409
Extender Base:	ST 1

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Bronzes
(to be mixed with Bronze Binder GO 902)

S 181	Aluminium (6:1)
S 182	Rich Pale Gold (4:1)
S 183	Rich Gold (4:1)
S 184	Pale Gold (4:1)
S 186	Copper (3:1)
S 190	Aluminium, rub-resistant (8:1)

All bronze shades are shown in a separate bronze shade card. Bronze mixtures cannot be stored and must be processed within 8 h. Due to their chemical structure, Pale Gold S 184 and Copper S 186 reduce the processing time of bronze inks.

High-gloss bronzes
Furthermore, 3 high-gloss bronze concentrates are available to be used by mixing them with GO 902or GO 409 (see separate technical data sheet "High-Gloss Bronze Concentrates")

S 291	High-gloss Silver (5:1 - 10:1)
S 292	High-gloss Rich Pale Gold (5:1 - 10:1)
S 293	High-gloss Rich Gold (5:1 - 10:1)

Due to the smaller pigment size compared to bronze powder, it is possible to work with finer fabrics of 140-31 to 150-34 at an acceptable price. Bronze shades of high-gloss bronze concentrates exhibit a high weather resistance and only a small dry abrasion.

Auxiliaries

Thinner:	QNV
Spray Thinner:	7037
Retarder:	SV 1
Retarder, slow:	SV 9
Retarder Paste:	VP
Cleaner:	UR 3
Matt Paste:	ABM
Matting Powder:	MP (2-4%)
Plasticizer:	WM 1(2-5%)
Printing Modifier:	ES (0.5-1%)

To adjust the printing viscosity, it is generally sufficient to add 10-15% thinner to the ink. To produce a retarding effect for slow printing sequences, Retarder SV 1 (e. g. 50% solvent) or Retarder Paste VP (20% max.) must be added to the thinner proportionately.

For an ink mixture containing retarder, only thinner without retarder should be used for additional thinning during the print run. For spray coating, the fast Thinner 7037 must be used.

Plasticizer WM 1 (2-5%) is recommended for obtaining particularly flexible ink films. This is important for thin substrates, as well as for self-adhesive foils which are die-cut, or for foils with a removable adhesive (risk of edge-curling). The use of plasticizer WM 1 reduces the drying speed.

GO can be matted by adding 5-20% ABM Matting Paste or 2-4% Matting Powder MP (2% max. for GO 070 and 170) whereas the opacity will be reduced.

Printing modifier ES contains silicone. It can be used to rectify flow problems on critical substrates by adding a maximum of 0.5-1% by weight to the ink. If an excessive amount of printing modifier is added, flow problems are increased, and adhesion may be reduced, especially when overprinting.

Cleaning

All Maragloss GO colour shades can easily be cleaned either mechanically by using a screen washer or manually with our Cleaner UR 3. It is recommended to clean the screens immediately after use.

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Fabrics and stencils

All types of commercially available fabrics and solvent-resistant stencils can be used.

Recommendation

The ink should be stirred well before printing.

Labelling

For our ink type Maragloss GO and its additives and auxiliaries, there are current Material Safety Data Sheets according to EC-regulation 91/155 informing in detail about all relevant safety data including the labelling according to the present EEC regulations as to health and safety labelling requirements. Such health and safety data may also be derived from the respective label.

The ink has a flash point of between 45°C and 100°C

Note

Our technical advice whether spoken, written, or through test trials corresponds to our current knowledge to inform about our products and their use. This is not meant as an assurance for certain properties of the products nor their suitability for each application.

You are, therefore, obliged to conduct your own tests with our supplied products to confirm their suitability for the desired process or purpose. The selection and testing of the ink for specific application is exclusively your responsibility.

Should, however, any liability claims arise, such claims shall be limited to the value of the goods delivered by us and utilised by you with respect to any and all damages not caused intentionally or by gross negligence.

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