

Maraprop PP



Pad printing ink for pre-treated and untreated polypropylene

Satin gloss, good opacity, fast drying 1-component ink system, very flexible

Vers. 4
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Field of Application

Substrates

Maraprop PP is particularly suited to print onto pre-treated and untreated polypropylene (PP).

Mostly, a pre-treatment of the surface by flaming, Corona discharge or applying our Special Primer P 2 is not necessary.

Some polypropylene materials may show lubricant residues on the surface, due to the production, which can reduce adhesion of the ink film. In these cases, please check if you can print without pre-cleaning without any difficulties.

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

Field of use

The satin-gloss and fast drying Maraprop PP is mainly used when it is to print onto polypropylene, e. g. to decorate advertising products or to mark injection-moulded parts. Its good adhesion enables prints onto many non pre-treated polypropylene materials.

Characteristics

Drying

Physically fast drying. Touch-dry at 20 °C after 2-3 min, at 30 °C after 30-40 sec. The times mentioned above vary according to substrate, depth of cliché, drying conditions, and the auxiliaries used.

Fade resistance

Only pigments of high fade resistance are used in the Maraprop PP range.

Shades mixed by adding bronze binder or other colour shades and especially white, have a reduced fade and weather resistance depending on their mixing ratio. The fade resistance also decreases if the printed ink film thickness is reduced.

The pigments used are resistant to solvents and plasticizers.

Stress Resistance

After proper and thorough drying, the ink film has an outstanding resistant surface and a high flexibility which is very important for these materials.

Although it is a physically drying ink, this special binder achieves its final resistance only after several days, and a resistance to filling products cannot be achieved. If this is demanded, please refer to our 2-component systems like Tampapur TPU, Tampapol TPY or Tampaplus TPP with an appropriate pre-treatment.

Clichés

All commercially available clichés made of photopolymer material, thin steel, and chemically hardened steel (10 mm) can be used. We recommend a cliché depth of 18-25 µm.

Printing pads

As per our experience, all common printing pads consisting of materials cross-linked by condensation or addition can be used.

Maraprop PP



Printing machines

Maraprop PP is suitable for closed ink cup systems, as well as for open ink wells. Depending on type and usage of the machine, it is to accordingly adjust type and amount of the thinner used.

Range

Basic shades

Refer to colour chart 'Maraprop PP'

PP 020	Lemon	PP 055	Ultramarine Blue
PP 021	Medium Yellow	PP 058	Deep Blue
PP 022	Yellow Orange	PP 059	Royal Blue
PP 033	Magenta	PP 067	Gras Green
PP 035	Bright Red	PP 068	Brilliant Green
PP 036	Vermilion	PP 070	White
PP 045	Dark Brown	PP 073	Black

Further shades available

PP 170 Opaque White

The adhesion of opaque white on untreated PP is reduced due to the higher pigmentation. A safe adhesion and scratch resistance can only be achieved if the surface tension is increased to minimum 42 mN/m by means of a suitable pre-treatment prior to printing.

All shades are intermixable. To maintain the special characteristics of this outstanding ink range, Maraprop PP should not be mixed with other ink types.

The basic shades according to System Tampacolor 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 Pantone®, HKS®, and RAL®, and Marabu System 21. All formulas are stored in the Marabu-ColorManager 2 (MCM 2) software.

Shades for 4-colour process prints

PP 429	Process Yellow (Yellow)
PP 439	Process Red (Magenta)
PP 459	Process Blue (Cyan)
PP 489	Process Black (Black)

Bronzes

(to be mixed with Bronze Binder PP 902)

S 181	Aluminium (6:1)
S 190	Aluminium, rub-resistant (8:1)

Both bronze shades are shown in a special bronze shade card.

Bronze shades cannot be stored and Aluminium must be processed in the course of 8 h (room temperature 20°C).

Due to their chemical structure gold shades made of bronze powder are not recommended because they reduce the processing time to 2 h. For a longer processing time gold shades can be ordered in our special matching department.

Bronze shades made of bronze powder are always subject to dry abrasion which can only be reduced by an appropriate over-varnishing with PP 902.

All figures in brackets are guidelines which can be varied according to opacity. The ratio figures in brackets refer to the mixture Bronze Binder PP 902 to bronze powder whereas the first figure is standing for the parts by weight of Bronze Binder PP 902. Due to the larger grain size of bronze pigments, we recommend a cliché depth of 30 µm.

Maraprop PP is not compatible with our three high-gloss bronze concentrates (S 291, S 292, S 293), we therefore do not recommend to mix them.

Additives

PP 902	Bronze Binder
PP 904	Transparent Base

The pigments used in the above 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.

Maraprop PP



Auxiliaries

Thinner:	PPTPV
Retarder:	SV 1
Matting product:	MP, Matting Powder
Antistatic Paste:	AP
Primer:	P 2, for polypropylene
Cleaner:	UR 3
Printing Modifier:	ES, addition: 0 - max. 1%

To adjust printing viscosity, it is generally sufficient to add 20-25% of Thinner PPTPV to the ink.

For the printing of very fine motives, Retarder SV 1 may be added to the thinner. An excessive addition may result in ink transfer problems from pad to substrate.

Attention

For an ink mixture containing retarder, only thinner should be used for additional thinning during the print run.

By adding Matting Powder MP, the glossy effect of the ink is reduced to a silky or semi-matt finish. The addition of a low percentage of MP (in the case of 070 White, max. 5%) will not influence significantly the resistances of the ink but reduce its opacity.

Printing Modifier ES contains silicone. It can be used to rectify flow problems on critical substrates by adding up to 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

To clean ink containers, clichés, and tools, please use our Cleaner UR 3.

Recommendation

The ink should be stirred well before printing. To protect the ink in opened containers against excessive drying, it can be carefully covered with a layer of thinner which can then be later stirred into the ink prior to printing.

Labelling

For our ink type Maraprop PP 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 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 between 21°C and 100°C.

Note

Please refer to the information in our technical data sheets of pad printing inks. 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, they 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.