

Maraprop PP



Screen printing ink for untreated and pre-treated polypropylene

Satin-gloss, one-component ink, high opacity, very flexible

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Field of Application

Substrates

Maraprop PP is a 1-component, solvent-based screen and pad printing ink which is best suited for printing onto

- Pre-treated or untreated polypropylene (PP)

For its use in pad printing, there is a separate technical data sheet available.

Some polypropylene substrates may have residues of lubricants on the surface, which can reduce adhesion of the ink film. We, therefore, recommend to test if a trouble-free printing without pre-cleaning is possible.

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

Field of use

The satin-gloss Maraprop PP is designed to print onto polypropylene sheet and foil materials (e. g. Priplak® or Akylux®) as well as onto flexible materials used for book covers or banners. Therefore, no pre-treating neither by flaming or Corona discharge nor the use of primer is necessary.

PP may be used, by an appropriate printing process, to print on to the non food-contact surface of any material or article intended to come into contact with foodstuffs. However, full compliance with the regulation (EG) Nr. 2023/2006 must be ensured. In case of any queries please contact our Marabu product safety department directly.

Maraprop PP 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 it as, otherwise, there could be bubbles in the ink film.

Characteristics

Drying

Physically fast drying, can be overprinted after drying at 20° C for 10-15 min, stackable after tunnel drying at 60° C within 40-60 seconds. The times mentioned above vary according to the substrate, the ink film thickness, drying conditions and the auxiliaries used.

An extended drying time is generally necessary in the case of multi-colour printing or printing onto front and reverse side.

Fade resistance

Pigments of medium to excellent fade resistance are used for our Maraprop PP (blue wool scale 6 to 8). All basic shades vertically placed are therefore suited for an outdoor use of up to two years, 4-colour process shades for one year referred to the moderate middle European climate. Prerequisite for this is the appropriate and professional processing, as well as a max. addition of 50% varnish or white to the basic shades.

A coat of PP 902 over the whole surface will stabilize outdoor prints further. In countries with higher exposure to sunlight (between 40th parallel north and 40th parallel south), outdoor resistance will decrease to one year.

The pigments used are resistant to plasticizers and solvents.

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Stress resistance

After proper and thorough drying, the ink film's surface has an outstanding stability, is stackable and shows an excellent flexibility. The chemical resistance of Maraprop PP to hand perspiration and abrasion is rather low and also only slightly resistant to mild fillers containing a max. alcohol solution of 50 %.

Due to the reduced resistance against hand perspiration, we do not recommend to print Maraprop PP onto products which are subject to a steady contact with fingers (e.g. pens).

If higher resistances are required, it is to use one of our 2-component systems like PU, P, or PY with an appropriate pre-treatment of the substrate.

Range

Basic shades – System 21

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

Further shades

170 Opaque White

Due to the higher pigmentation, the adhesion of opaque white onto untreated PP is reduced. A secure adhesion and scratch resistance can only be achieved if the surface tension is increased to at least 42 mN/m before printing by an appropriate pre-treatment.

All shades are intermixable. Mixing with other ink types or auxiliaries must be avoided in order to maintain the special characteristics of this outstanding ink range.

All basic shades are included in our Marabu-ColorFormulator (MCF). They build the basis for the calculation of individual colour matching formulas, as well as for shades of the common colour reference systems HKS®, PAN-

TONE®, and RAL®. All formulas are stored in the Marabu-Color Manager software.

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

Additives

Clears

902 Bronze Binder

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 bronze colour chart. Bronze shades cannot be stored and Aluminum must be processed in the course of 8 h (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. All figures in brackets are guidelines for mixtures with PP 902 Bronze Binder while the first figure is standing for the parts by weight of PP 902 Bronze Binder.

Due to the larger grain size of bronze pigments, we recommend a fabric of 120-34 or 120-31 or even coarser.

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.

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Auxiliaries

Thinner, slow:	QNV
Thinner, fast:	UKV 1
Spray Thinner:	PPTPV
Retarder, mild:	SV 1
Printing Modifier:	ES (0.5-1 %)
Matting Powder:	MP (1-4 %)
Primer for polypropylene:	P2

To adjust the printing viscosity, it is generally sufficient to add 15 - 20 % thinner, resp. retarder to the ink. Before printing, it is important to stir the ink well and homogeneously.

To produce a retarding effect for slow printing sequences, Retarder SV 1 is proportionally added to the thinner (e.g. 50 %). For an ink mixture already containing retarder, only pure thinner without retarder should be used for additional thinning during print run. For spray varnishing, Thinner PPTPV is to be used.

Printing modifier ES contains silicone. It can be used to rectify flow problems on critical substrates by adding 0.5 to max. 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.

By adding Matting Powder MP (1-4 %, in the case of White 070/170 max. 2 %) to the ink, the gloss level can be reduced. This will not have any negative influence on the chemical resistance or adhesion of the ink.

Cleaning

For manual cleaning of containers, clichés, and tools our cleaner UR 3 (flash point 42° C) or UR 4 (flash point 52°C) can be used.

Fabrics and stencils

All types of commercially available polyester fabrics (1:1 plain weave quality) and solvent-resistant stencils can be used.

Mileage

One litre of Maraprop PP yields about 70 m² of printed surface at a dilution level of 20 % using a 120-34 mesh.

Labelling

For Maraprop PP and its additives and auxiliaries, there are current Material Safety Data Sheets available according to EC-regulation 1907/2006, covering in detail all relevant safety data including the labelling according to the present EC regulations as to health and safety labelling requirements. Such health and safety data may also be obtained from the respective label. The ink has a flash point between 40° C and 55° 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 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 utilized by you with respect to any and all damages not caused intentionally or by gross negligence.