

Special Screen Printing Ink

Satin gloss, high opaque, fast drying, resistant to chemicals



Marabu

3047

For blind sheets of acrylic glass with blocking layer 3035

Field of Application

Substrates

One-component special ink 3047 in combination with two-component blocking layer 3035 is suitable for printing on acrylic glass (PMMA). Both ink systems are solvent based.

As the parameters for injection moulding, thickness of printed ink layers, and printability of the substrate may vary, preliminary trials are essential to determine the suitability for the intended purposes.

Field of use

Special inks 3047/3035 are suited for printing of blind sheets for household gadgets of acrylic glass.

Characteristics

Processing of the ink

The recommended ink application is a combination of maximum resistance and efficient manufacture, therefore all ink layers except the last, the blocking layer, are processed without hardener as one-component ink. For a maximum resistance it is essential to stick to the following process:

- 1.) Script Ink: 3047 after having consulted Marabu or Marastar SR as one-component ink.
- 2.) Covering layers: Special Ink 3047, one-component. For high opacity with white, you should print 2x the whole surface.
- 3.) Blocking layer: Special Ink 3035, two-component ink plus 10 % hardener. This blocking layer has to be printed over the whole ink surface as finishing layer, except on diode windows.

The ink must be thinned to the required printing viscosity prior to printing by adding 5-10 % thinner and/or retarder.

As the printed blind sheets will often be fixed with adhesive tape, no additives such as plasticizers or levelling agents must be added for maximum adhesive strength.

All inks can be printed on semi- to fully automatic machines, depending on the type of drying.

Drying

The Special Ink 3047 and the Script Ink 3047 and Marastar SR are physically fast drying, and the inks can be printed, depending on the printed layer thickness, after the following times:

Special ink 3047 (1-component)

Drying degree	Type of drying	Temperature	Time
touch-dry (ready to overprint)	air drying (drying rack)	20 °C	20min
dry (stackable)	air drying	20 °C	30min
	tunnel dryer	50 °C	1.5min

Complete ink application with special ink 3035 (2-components)

Drying degree	Type of drying	Temperature	Time
touch-dry (ready to overprint)	air drying (drying rack)	20 °C	60min
dry (stackable)	air drying	20 °C	90min
	tunnel dryer	60 °C	30min
hardened (max. resistance)	air drying	20 °C	10days
	tunnel dryer	60 °C	5days

Generally, it is important that solvent remainders are eliminated in the printed ink film by a good drying/intermediate drying. This is achieved by drying in an oven with recirculating air for 5 min. at 60 °C or by a conveyor type elevator dryer.

The blocking layer printed on the whole surface with special ink 3035 plus 10 % hardener PUH should be dried in the dryer by recirculating air or by a conveyor type elevator at 60 °C for 30 min.

Fade resistance

We are using pigments of excellent fade resistance for the Marastar SR as well as the Special Inks 3047 and 3035. Shades mixed by adding printing varnish or other shades, especially White, have a reduced fade resistance depending on their mixing ratio. The fade resistance of the ink decreases if the printed ink film thickness is reduced.

The used pigments are resistant to solvents and plasticizers.

Stress resistance

After proper and thorough drying, the ink film exhibits outstanding adhesion as well as rub, scratch, and block resistance.

Furthermore, prints with Special Ink 3047 (with blocking layer 3035 + hardener) were positively tested in our laboratory as regards:

- + adhesion and scratch resistance as per DIN 53 151
- + fade resistance (Xenon test)



Marabu

- + abrasion resistance
- + resistance to water steam, 5 h at 85 °C
- + water storing test, 20 h at 60 °C
- + oil resistance
- + Titrisol resistance
- + common household cleaners and washing-up liquids
- + heat resistance of colour shades (at 120 °C for 15 h)

Range

Shades

The Script Ink Maragloss GO is available in 21 standard shades (s. Technical Data Sheet GO). The shades of Special Ink 3035 and 3047 are manufactured on request depending on orders.

To all shades of blocking layer 3035, 10 % of hardener PUH must be added.

The shades are all based on organic pigments. Therefore, none of the shades contain heavy metals according to the EEC regulations EN 71, part 3, "safety on toys" - migration of specific elements. All shades of Special Ink 3047 are therefore entirely suited for the printing onto toys.

Auxiliaries

The following additives are recommended for Special Inks 3047, 3035:

Thinner for 3035:	UKV 1
Thinner for 3047:	PSV
Retarder for 3035 and 3047:	SV 1
Cleaner:	UR 3

To adjust printing viscosity, an addition of 10 % of thinner is generally sufficient. For good printing ability, a mixture of 2 parts of thinner PSV and 1 part of retarder SV 1 has well turned out. Any subsequent thinning of an ink prepared with retarder should be carried out only with pure thinner PSV. We do not recommend any addition of plasticizer or levelling agent.

For auxiliaries and additives for script inks, please see separate Technical Data Sheet.

Fabrics and stencils

All types of commercially available fabrics and solvent-resistant stencils can be used. In practice, the following fabrics have well turned out:

Script inks	120 T
Covering layers 3047	68-77 T
Blocking layer 3035	68-77 T

Labelling

For our special inks type 3035 and 3047 and its additives and auxiliaries there are current Material Safety Data Sheets according to EEC-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 above 21° C. Since the ink is not considered as a flammable liquid due to its pastous nature, any specific regulations for the handling of flammable liquids do not apply to the ink.

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.