Screen Printing System Ink

Satin-gloss, semi-opaque, very fast drying, highly block resistant, insensitive surface, suitable for moulding

Marabu

Maraspeed SL

For polystyrene, PVC self-adhesive foils, rigid PVC, paper, pasteboard and cardboard

Field of Application

Substrates

The screen printing ink Maraspeed SL is designed for application on polystyrene, rigid PVC, PVC self-adhesive foils, paper, pasteboard, and cardboard.

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

Field of use

Maraspeed SL is a very fast drying and block resistant plastic ink and is therefore very well suited for fast running fully automatic or cylinder print presses with often low and thus less material-wearing drying temperatures of 30 - 40 °C. The SL shows very good results in multiple colour prints on one or on both sides on polystyrene or rigid PVC sheets. It is not suitable for material which is flexible or contains much plasticizer nor reversible stickers with thick ink layers. If the printed ink film is to be cut or punched subsequently, we recommend a sufficient drying in advance and the addition of plasticizer WM 1.

SL can also be processed with a spray gun, but preliminary trials are absolutely necessary for this process. We recommend to filter the thinned press-ready ink (25 µm screen) before processing it, as otherwise you could have bubbles in the ink film.

Characteristics

Drying

Physically very fast drying, dries at 20 °C air drying within 5 - 8 min. already to be overprinted, at 40 °C in a tunnel dryer within 20 sec. stackable. These dates require a normal thickness of the ink layer (e.g. farbric 120-34 [T]), a high capacity of the dryer and a one-colour print. When overprinted, the drying speed and the block resistance are reduced by about 20 %.

With a high capacity of the dryer and good fresh-air ventilation, the dryer temperature can be decreased to 30 - 40 °C for less material distorsion. If plasticizer WM 1 (2 - 5 %) is added to the SL, the drying speed is slowed down.

Fade resistance

We are using pigments of excellent fade resistance for the manufacturing of our Maraspeed SL ink type. Shades mixed by adding transparent base SLT or printing varnish SLL and 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. The pigments used 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 and is mouldable in the streaks (tests are necessary with 4-colour process shades). SL shows a normal chemical resistance of 20 double-rubs to alcohols and other usual cleansers (e.g. window cleaner) and 5 double-rubs to lead-free premium grade petrol. For a higher chemical and rub resistance, we recommend a top-coating with printing varnish SLL.

Range

Marabu-mix colour matching system includes 21 basic shades which are intermiscible. The Maraspeed SL ink should not be mixed with other types of ink, to maintain the special characteristics of this outstanding ink range.

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.

Basic shades

Compare colour chart "System 21"

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

By using these 21 basic shades in accordance with the mixing ratios given in the Marabu-ColorManager (MCM) or Marabu-datamix software, it is possible to produce shades of the ink systems Marabu System 21, RAL, and HKS.

Standard shades as per EURO scale

Four colour shades for 4-colour process print

SL	429	Process-Yellow	SL	459	Cyan
SL	439	Magenta	SL	473	Process-Black

For the individual densitometric density adjustment of the standard shades, transparent base SLT or ink concentrates for 4-colour process shades are available in Process-Yellow 429, Magenta 439, and Cyan 459 (see separate technical data sheet). Standard shades must not be moulded without preliminary trials under original conditions.

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Press-ready bronzes as standard shades
SL 191 Silver
SL 193 Rich Gold

Additives

Bronze binder:	SLL
Printing varnish:	SLL
Transparent base:	SLT

Bronze powders (to be mixed with varnish SLL)
All bronze shades are shown in a special bronze shade chart.

S 181 Aluminium	S 184 Pale Gold
S 182 Rich Pale Gold	S 186 Copper
S 183 Rich Gold	S 190 Aluminium (rub-resistant)

Bronze ink mixtures are instable and have a processing time of 8 hours. For the processing of the bronzes we refer you to our separate data-sheet “Screen Printing Bronze Inks".

High-gloss bronzes, pastes
Furthermore, 3 high-gloss bronze concentrates are available as pastes, to be used by mixing them with bronze binder SLL, mixing ratio 5:1 - 10:1 (see separate Technical Data Sheet "High-Gloss Bronze Concentrates").

S 291 High-gloss Silver
S 292 High-gloss Rich Pale Gold
S 293 High-gloss Rich Gold

Auxiliaries

Thinner for rigid PVC:	UKV 1
Thinner, few odor:	UKV 2
Thinner for polystyrene:	PSV
Spray Thinner:	7037
Spray Thinner for PS:	PSV
Retarder:	SV 8
Retarder, very slow:	SV 9
Retarder Paste:	VP
Cleaner:	UR 3
Plasticizer:	WM 1 (2 - 5 %)
Printing modifier:	ES (0.5 - 1 %)
Matting powder:	MP (1 - 4 %)

To adjust the printing viscosity it is generally sufficient to add 10 % thinner to the ink. To produce a retarding effect for slow printing sequences, the retarder SV 8 is added to the thinner proportionately (e.g. 50 %) or 5 % max of SV 9.
For the print of very fine details it is possible to use 10 % retarder paste VP or pure retarder SV 8. For an ink mixture containing retarder, only thinner without retarder should be used for additional thinning during print run. The Thinner 7037 is available for spray-coating and PSV for polystyrene.

For a particularly flexible ink film, if required for subsequent usage, plasticizer WM 1 (2 - 5 %) should be added to the ink. This applies e.g. for very thin substrates, for punching in the ink film on self-adhesive foils or foils with poor removable adhesive (danger of edge curling).

Printing modifier ES contains silicone. It can be used to rectify flow problems by adding 0.5 - 1 % max. 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 overprinted.

By adding matting powder MP (1 - 4 % max., for SL 070 white 2% max.), the ink film can indivually be matted. We recommend cleaner UR 3 to clean the screens immediately after use.

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

Labelling

For our ink type Maraspeed SL 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 between 21 °C and 100 °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 for 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.