

Pad printing ink for ABS, polystyrene, SAN, rigid PVC, polycarbonate, acrylic glass, and varnished surfaces

Glossy, good opacity, very fast drying 1- or 2-component system, resistant to alcohol and petrol, versatile, for closed and open systems

Vers. 9
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Field of Application

Substrates

Tampaplust TPL is particularly suited to print onto ABS, polystyrene (PS), SAN, rigid PVC, polycarbonate (PC), acrylic glass (PMMA), some types of soft PVC, wood, paper, and cardboard. By adding Hardener H 1, Tampaplust TPL adheres excellently to many other substrates such as varnished surfaces, thinly anodised aluminium, or some thermosetting plastics.

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

This glossy and very fast drying pad printing ink particularly distinguishes itself by a very good printability even in a closed ink cup system. It is therefore especially suited for printing onto high-quality products such as e. g. cosmetic packaging, housings, and other items requiring a high resistance, but is also commonly used for industrial applications and promotional items.

Characteristics

Pot life

The pot life (processing period) at room temperature (approx. 20°C) will be about 8-10 h with H 1. Higher temperatures during the processing process reduce the pot life. If the mentioned times are exceeded, the ink's adhesion and resistance may be reduced even if the ink characteristics show no noticeable change.

The processing and curing temperature should not be lower than 15 °C as irreversible damage can occur. Also avoid high humidity for several hours after printing as the hardener is sensitive to humidity.

Drying

Tampaplust TPL is a very fast physically drying ink and it is, therefore, immediately overprintable when printing on multi-colour machines (wet-on-wet). The addition of Hardener H 1 will extend the drying time. The times mentioned above vary according to substrate, depth of cliché, drying conditions, and the auxiliaries used.

The processing and curing temperature should not be lower than 15°C as irreversible damage can occur. Also avoid high humidity for several hours after printing as the hardener is sensitive to humidity.

Fade resistance

Only pigments of high fade resistance are used for the Tampaplust TPL range. Shades mixed by adding overprint varnish or other colour shades, and especially white, have a reduced fade and weather resistance depending on their mixing ratio. Fade resistance also decreases if the printed ink film thickness is reduced.

Even if TPL seems to be dry already few minutes after printing, it is recommended to carry out resistance tests no earlier than 24 hours after printing. The pigments used are resistant to solvents and plasticizers.

Tampaplus TPL



Stress resistance

After proper and thorough drying, the ink film exhibits outstanding adhesion as well as rub, scratch, and block resistance, and is also resistant to alcohol and petrol.

In some cases, surface stability as well as adhesion and resistance to solvents may be improved by adding 10% Hardener H 1.

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 21-28 µm.

Printing pads

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

Printing machines

Tampaplus TPL 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 'System Tampacolor'

TPL 920	Lemon	TPL 950	Violet*
TPL 922	Light Yellow *	TPL 952	Ultramarine blue*
TPL 924	Medium Yellow	TPL 954	Medium Blue
TPL 926	Orange	TPL 956	Brilliant Blue*
TPL 930	Vermilion *	TPL 960	Blue Green
TPL 932	Scarlet Red	TPL 962	Grass Green *
TPL 934	Carmine Red	TPL 970	White, semi-gloss
TPL 936	Magenta*	TPL 980	Black
TPL 940	Brown		

(* semi-transparent/ transparent)

Further shades available

TPL270 High-Gloss White

High-opaque colour shades

TPL 122	Light Yellow
TPL 130	Vermilion
TPL 152	Ultramarine Blue
TPL 162	Grass Green

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

The basic shades according to System Tampacolor as well as the high-opaque shades are all included in our Marabu-ColorFormulator and build the calculation basis for individual colour matching formulas. They are further the basis for colour matches according to the common Pantone®, HKS®, and RAL® colour reference systems.

All formulas are stored in the Marabu-ColorManager 2 (MCM 2) software. The high-opaque formulas are additionally available in MCM 2 marked with + + behind the reference name. These formulas have been developed by using the System Tampacolor formulas for basic and high-opaque shades excluding the semi-transparent, resp. transparent shades.

Shades for 4-colour process prints

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

Press-ready gold and silver shades

TPL 191	Silver
TPL 192	Rich Pale Gold
TPL 193	Rich Gold

High-gloss metallics

TPL 291	High-Gloss Silver
TPL 292	High-Gloss Rich Pale Gold
TPL 293	High-Gloss Rich Gold

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Bronzes

(to be mixed with Overprint Varnish TPL 910)

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

Due to their chemical structure, Pale Gold S 184 and Copper S 186 have a reduced processing time. Please generally prepare mixtures for one working day only as they cannot be stored and must be processed within 8 h.

Clears

TPL 910 Overprint Varnish, can also be used as bronze binder

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.

Auxiliaries

Thinner:	TPV TPV 2, fast thinner TPV 3, slow
Hardener:	H 1
Mixing ratio:	10 p. ink : 1 p. hardener
Retarder:	SV 1 VP, Retarder Paste
Matting product:	MP, Matting Powder
Antistatic Paste:	AP
Opaquing Paste:	OP 170
Cleaner:	UR 3
Printing modifier:	ES, addition: 0 - max. 1%

To adjust printing viscosity, it is generally sufficient to add 10-20% of Thinner TPV to the ink. Thinner TPV 2 can be used for fast printing, TPV 3 for slow printing requirements.

For the printing of very fine motives, Retarder SV 1 or Retarder Paste VP may be added to the ink. An excessive addition may result in ink transfer problems.

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 2-4% Matting Powder MP (in case of 970 White, max. 2%) will not influence significantly the resistances of the ink but reduce its opacity.

By adding Opaquing Paste 170, the opacity of colour shades can significantly be increased without influencing the chemical and dry abrasion resistance considerably. Maximum quantity to be added is 15%. OP 170 is not suitable for using it with white shades.

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 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.

Tampaplus TPL



Labelling

For our ink type Tampaplus TPL 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.