



Pad printing ink for natural or synthetic fibres like cotton, polyamide, polyester, and spandex

Flexible, very high opacity, 2-component system, good resistance against washing and ironing, certified according to Oeko-Tex® Standard 100

Field of Application

Substrates

Tampatex TPX is particularly suited to print onto

- Cotton
- Nylon
- Polyester
- Polyamide (PA)
- Spandex
- Blended fabrics

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

Tampatex TPX is destined for pad printing applications on natural or synthetic textiles requiring high resistance against washing and ironing.

Characteristics

Mixing ratio

Prior to printing, it is a must to add hardener HX in the correct quantity:

5 parts ink : **1** part hardener

Drying

Parallel to physical drying (i. e. the evaporation of the solvents used), the actual hardening of the ink film is caused by the chemical cross-linking reaction between ink and hardener.

The following values concerning progressive cross-linking (hardening) of the ink film can be assumed:

Drying times

stackable	20°C	20 sec
final hardness	20°C	7 days
pot life	20°C	7-8 h

Chemical cross-linking can be accelerated by higher temperatures, for example by using a continuous dryer. The times mentioned vary according to substrate, depth of cliché, drying conditions, and the auxiliaries used. For quick printing sequences, we recommend forced air drying (max. 200°C for 2-3 sec) of the surface after each colour (depending on the substrate!). For multiple colour printing we point out that the previously printed ink film should not be entirely cured before the consecutive ink film is printed on top of it.

If drying at room temperature, the consecutive print should be carried out within 48 h.

Pot life

The pot life (processing period) at room temperature (approx. 20°C) will be about 7-8 h with HX. Higher temperatures 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.

Tampatex TPX



Fade resistance

Only pigments of high fade resistance are used in the Tampatex TPX range.

Shades mixed by adding overprint varnish or other colour shades, especially white, have a reduced fade and weather resistance depending on their mixing ratio. The fade resistance also decreases if the ink film thickness 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 resistant to a large number of chemical products, oils, greases, and solvents.

The 2-component ink Tampatex TPX is designed for printing onto natural and synthetic fibres and features high flexibility. Prints on nylon, polyester, spandex, and blended fabrics are highly wash-resistant, and deliver better results after several washing cycles than other solutions like transfer labels. Maximum washing resistance is reached if prints are allowed to dry for 2 days at 20°C. This can be accelerated with forced drying like oven or hot air.

The resistance of Tampatex TPX against ironing is very good. Therefore, the resistance against ironing of the printed product depends more on the temperature stability of the substrate. Pre-treatment of the textiles is not necessary. For textiles treated with a finishing, preliminary trials are mandatory.

Range

Basic shades – System Tampacolor

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

Press-ready Metallics

191 Silver

Since the substrate range often includes dark materials, TPX basic shades except for TPX 922, 936, 950, and 956, feature a high opacity. This combination allows the mixing of colour shades according to common mixing systems as well as the Pantone Textile Color Guide.

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

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.

Oeko-Tex® Standard 100 Certification

The Tampatex TPX basic shades 920-980 as well as silver 191 and varnish 910 are certified according to Oeko-Tex® Standard 100.

Certification Number: 11.0.00714.

Additives

Clears

910 Varnish

Auxiliaries

Hardener:	HX, xylene-free
Mixing ratio:	5 p. ink : 1 p. hardener
Thinner:	TPV 2, fast thinner GLV, slow thinner TPV 9, slow thinner
Retarder:	SV 1 VP, Retarder paste
Antistatic paste:	AP

The hardener should be added to the ink briefly before printing.

To adjust the printing viscosity, it is generally sufficient to add 10-15% thinner TPV 9. Thinner TPV 2 can be used for fast printing, GLV 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.

Cleaning

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

Clichés

All commercially available clichés made of photopolymer (35-50 µm), ceramic, thin steel, and hardened steel (thickness 10 mm) can be used. The recommended cliché depth for ceramic, thin steel, or hardened steel clichés is approx. 30 µm.

Laser engraved clichés have particularly proved themselves because the cliché depth can be controlled precisely. Therefore, it is easy to produce several clichés with highest accuracy for exact reproductions.

Printing pads

As per our experience, all common printing pads consisting of materials cross-linked by condensation or addition can be used. A hardness of at least 6 Shore is recommended.

Printing machines

Tampatex TPX 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.

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.

Tampatex TPX



Labelling

For our ink type Tampatex TPX and its additives and auxiliaries, there are current Material Safety Data Sheets available according to EC-regulation 1907/2006 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.

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, they 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.