



UV - Curing Pad Printing Ink TPC 728

TPC 728 is a high gloss UV pad printing ink for decorating a vast array of plastics. This user friendly ink is designed for demanding industrial applications that require high level chemical & abrasion resistance.

Application

TPC 728 is suitable for printing on a variety plastic substrates. The range includes pre-treated Polyolefin's (Polypropylene, Polyethylene), rigid-PVC, Polystyrene and its derivatives such as; ABS, SAN, etc., PMMA, Polycarbonate, Polyamide (also glass-filled), and partly PET-materials, as well as Duroplastic. Furthermore TPC 728 can be used for various coated surfaces and works on some metals.

The operable area for TPC 728 is (nearly) the complete range of plastics used for technical & industrial printing applications; (i.e.: automotive parts, electronic parts, medical devices, appliance panels, power tools, children's toys, etc.).

The great variety of plastics and the use of recycled material can cause differences in properties of substrates with the same name. This makes it absolutely necessary for the end user to conduct in-house printing tests to determine suitability of the product for the intended purpose prior to beginning full production.

Note: due to the constant development and optimization of TPC 728 the range of practical substrates may increase.

The 728 ink system combines the advantage of fast curing UV-ink technology with properties exhibiting extremely high resistance (similar or better than 2-Component solvent based inks).

Colour Shades

The colour shades of the TPC 728-NT range show heavy metal free pigmentation and correspond to EN 71, part 3, safety of toys, migration of certain elements and ASTM Standard F 963-2003.

Ink Colour Programme

Mixing System Base Colours

TPC 728/PC-01-NT Lemon yellow
TPC 728/PC-02-NT Corn yellow
TPC 728/PC-03-NT Orange
TPC 728/PC-04-NT Carnation red
TPC 728/PC-05-NT Violet
TPC 728/PC-06-NT Cobalt blue
TPC 728/PC-07-NT Green
TPC 728/PC-11-NT White
TPC 728/PC-12-NT Black
TPC 728/PC-13 Varnish

In addition to these opaque color shades listed above we offer five transparent, yet highly pigmented color shades for special mixtures in order to increase the brilliance and to achieve special tinted metallic color shades in combination with metallic pigments:

TPC 728 PC-14-NT Transparent yellow
TPC 728/PC-15-NT Transparent red
TPC 728/PC-16-NT Transparent magenta
TPC 728/PC-17-NT Transparent blue

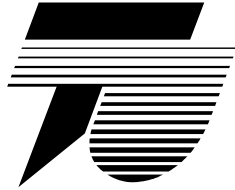
Process Colour according to European Scale

TPC 728/80-NT Yellow
TPC 728/81-NT Magenta
TPC 728/82-NT Cyan
TPC 728/83-NT Black

Bronze Inks

Bronze pastes and powders 76 and 79 are available for printing of silver and gold colour shades.

Gold and silver bronzes are metal pigments which may react with the pH-acidic UV components. Therefore mixed bronze inks should be processed quickly (pot life of approx. 24 hours).



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Technical Data Sheet

TPC 728

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The bronze pastes are mixed with the corresponding varnish TPC 728/GF-13 respectively prior to processing.

Characteristics

This modern UV pad print ink system is free of critical physiological substances like NVP (N-vinyl-2-pyrrolidone HDDA, TPGDA and TMPTA). Being a highly reactive ink system, the end-user should be aware of the safe handling requirements of typical UV inks.

Adjustment for Pad Printing

Prior to processing pad printing inks TPC 728-NT are adjusted with different solvent thinners. For fast printing the accelerator VS is recommended. For normal printing cycles the thinners VD or VM, and for slower printing VG can be used. Normally there is no need to use a retarder. Typically you would add 15% to 20% thinner (by weight).
Viscospatula time = app. 8 ... 20 sec.

In the event of static discharge on the printing surface, our Antistatic Paste AP brings a splash-free printing quality.
Recommended range = 3 ... 5 %. More than 5 % results in less opacity.
Liquid anti-static products produce fewer positive effects.

Processing

The following processing parameter have to be followed:

Plate:

All kinds of clichés can be used, however due to their better resistance steel plates are preferred. Criteria for choice of plates are comparable to those of conventionally drying pad printing inks.

Plate depths:

Plate with an etching depth of 16...24 µm.

Type and quality of pad:

Processing of TPC 728-NT should be carried out with STAR-X Antistatic-Longlife-Pads with an unworn surface (hardness 54 Shore-00).

UV-curing

Pad printing inks TPC 728 only cure under UV-radiation of suitable wavelength and intensity. Drying parameter depend on layer thickness, colour and substrate.

This UV system is designed for curing with high or medium pressure mercury lamps with at least 80-120 W/cm. Optimum curing and adhesion properties require an energy level of app. 500mJ/sqcm (Kühnast UV-Integrator, 250-410 nm, max. 365 nm) responsible app. 1000 mJ/cm² (Technigraf UV-Integrator). The energy level depends on the opacity and the transferred amount of ink. Double prints are possible without curing in between (at appropriate higher energy levels). Only double prints of highly opaque color shades can be cured reasonably. Maximum chemical and abrasion resistance will be achieved after a period of 24 hours.

NOTE: Cured prints are difficult to overprint. Therefore, there should be no intermediate curing in multi-colour printing. Cure after printing all layers.

Cleaning

For cleaning of stencils and tools our universal cleaning agent RE can be used.

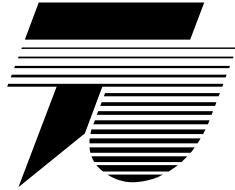
Storage

Under normal conditions (limited change of temperature, moderate temperatures of 15-25°C, humidity 20-70%) we guarantee a shelf life of 12 months for standard color shades and 6 months for metallic shades.

Opened cans should be sealed firmly and stored under absence of sun light or other UV light sources.

Packing

TPC 728-NT inks are available in 1 liter cans (approx. 1.06 qt.).



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Shelf Life

For information regarding shelf life please see tin label.

Marking

Read material safety data sheets prior to processing.

The material safety data sheets according to 91/155/EWG contain marking in compliance with the regulation on dangerous working materials as well as instructions for precautions when processing, handling and storing as well as first aid.

The information given in the material safety data sheet refers to processing as described in this technical leaflet.

Precautionary measures

Read material safety data sheet prior to processing. The material safety data sheets according to OSHA form contain indication of hazardous ingredients, TLV-level and instructions for precautions when processing, handling and storing as well as first aid. The information given in the MSDS refers to processing as described in this technical leaflet. The statements in our leaflets have been made to the best of our knowledge and are given without any obligation. They serve to advise our business associates, **but it is absolutely necessary** to make your own printing tests under local conditions, with regard to the intended purpose prior to starting the printing job. In case of any doubts please contact our technical advisors. The application, use and processing of the products delivered by us are beyond our control. This is subject to your responsibility and there is no liability or guarantee on our part.

In case of justified complaints the manufacturer can only be made liable for the counter value of the used ink system.

Addition of not mentioned products or competitors products are on your own risk and releases Teca-Print AG of any later demands, especially in cases of damage and loss caused by alien products. All former leaflets are no longer valid.

Date: 03/2008

The TPC 728 meets the following regulations:
5th alteration of „Bedarfsgegenständeverordnung“
Guide line 2002/95/EG (RoHS)
Guide line 2002/96/EG /WEEE)
Guide line 2003/11/EG
Directive 76/769 EEC (PAH)
DIN 53160
Free of Formaldehyde
Free of Vinyl chloride and monomer VC
Free of Toluene and Xylene
Free of listed Azo-dyes
Free of chlorinated organic substances