

TCP 9900 for padprinting

Type

Fast, air drying, glossy, one- or two-component pad printing ink with a long pot-life, adhering on various substrates.

Application

On aluminium, polyacrylics, pvc, several types of polyester, pre-treated polyethylene and polypropylene, aluminium, sandpapered brass and copper, tinplate, several types of stainless steel and most lacquered substrates with, if necessary, the use of an adhesion agent. (See this leaflet and ink additives.)

Qualities

General

Although TCP 9900 used as a two-component ink with excellent adhesion on various materials, good resistance to chemical products etc., the ink is air drying. The chemical reaction takes place in the dry inkfilm.

Drying

Drying takes place by evaporation of the solvents. The chemical reaction between the components sets in only after drying, without consumption of oxygen. Overprintable after 3 seconds. Final drying is dependent on the thinner applied, temperature, ventilation and the qualities of the printed material. By warm air drying the drying time is dependent on air-temperature, the depth of the cliché plate, the type of thinner and the qualities of the printed material.

The TCP 9900 inks can be enamelled to obtain a better adhesion on metals. Enamelling can also be effectuated after warm air drying in order to realize instant complete hardening-through of the inkfilm. Enamelling : 5-10 minutes at 180°C or : 25-30 minutes at 120°C.

By multicolour padprinting systems a flash curing with cold- or warm air can be necessary.

Gloss

The gloss is dependent on the layer thickness and the printed grounds. In practice it is sometimes necessary to print twice or more without a pause so as to obtain a beautiful gloss.

Colour mixing

In this ink series the Visprox colours according to the Colormatic matching system can be obtained by using the mixing colours A-M as well as colours of other matching systems. Pantone formulations are available. Condition: white substrate.

EN 71.3/ ASTM F 963

All the mentioned colours comply to the EN 71.3 and the ASTM F 963 norm.

Adhesion

On the under "application" mentioned materials the adhesion is good. The to be printed Materials have to be free from oxides (metals) and grease. While degreasing see to it that the cleanser itself does not contain grease and be sure that the to be printed materials is dampproof. A very good degreaser is isopropyl alcohol (polish with a dry cloth). Good judgement of the adhesion is only possible when reaction has fully taken place, which is usually the case after 48 hours.

Chemical resistance

If well hardened through TCP 9900 inks are resistant to alcohols, cosmetics (shampoos and hairsprays), detergents, soap, mineral oils, and cleaning spirit. The TCP 9900 inks does not resist aggressive aromatics and ketones, aggressive acids and lyes.

Opacity

The opacity of the TCP 9900 inks is good. The several colours, white and black are available in an extra opaque quality.

Bleeding

The pigments applied in the TCP 9900 inks do not bleed when overprinted.

Light fastness

The lightfastness of all the colours in full tone is good. The thicker the layer, the better the light-fastness. When extended with white or Clear/Overprint Varnish the lightfastness diminishes.

Elasticity

Very good, metals printed with TCP 9900 inks can be deformed after printing.

Cliché Depths

The TCP 9900 pad printing inks have a good ink transfer and can be used with quite significant cliché depths. Generally speaking, a depth of 26 to 36 micrometer (0,001" - 0,0015") is recommended. Even clichés up to 40 micrometer can be used when during printing the pad is treated with air.

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Hardener no. 2

The TCP 9900 ink is supplied in two components; 1 litre of ink by 100 cc of hardener no.2. The Hardener no.2 is supplied in tubes which have to be closed immediately after use as the hardener reacts with the humidity of the air. Mixing ratio: add 6 – 10% Hardener no. 2 to the ink.

Only when the hardener is well mixed with the ink, the required quantity of thinner or retarder can be added.

Potlife

At 20°C the potlife of the mixture ink-hardener is about 72 hours. At lower temperatures, provided that the tins are well closed and dampproof stored, the potlife of the mixture can be longer.

Attention

When printing overlapping with one or more colours or varnish this has to be done within 48 hours. After this period the next print will damage the already printed colour. The above mentioned is only applicable when the ink is used in combination with hardener.

Thinner

Stir the ink well before diluting. First add the required amount Hardener no.2 subsequently dilute etc. Dilute with 20 to 25% thinner 10. When printing fine details and/or when working at higher surrounding temperatures, a mixture of thinner 10 and retarder 8 can be used. Too little an addition of thinner can be detrimental to the drying and printing qualities of the ink.

Extension

TCP 9949 Clear/Overprint Varnish can be added in every proportion so as to lower the colour intensity or to obtain semi-transparent effects, this, however, reduces the lightfastness, dependent on the added percentage.

Hardener no.9

Glass hardener to achieve a good dishwasher resistance. Mixing ratio: add 6% of Hardener no. 9 to the TCI 8700 ink. To achieve a good dishwasher resistance you have to bake the ink at a temperature of 140° C for 20 minutes.

Matting

The gloss of the TCP 9900 inks can be reduced by an addition of Visprox Matting Paste. Dependent on the result required: add 10-30%. The use of matting paste decreases the weather resistance.

Varnish

In order to increase the gloss of the TCP 9900 inks a layer of TCP 9949 Clear/Overprint Varnish can be applied. This may also be desirable when very high demands are made upon the scratch resistance. When a partial or full mat surface is required a layer of TCP 9945 Clear Flat can be applied.

TCP 9900 Pale and Rich Gold

These inks, when mixed, are not stable. Gold Paste and Clear/Overprint Varnish are therefore separately packed. The best result will be obtained by mixing the Gold Paste in a mixing ratio of 2 parts of weight of the Clear/Overprint Varnish and 1 part of weight of Pale or Rich Gold Paste. Add then 10 volume % of hardener calculated on the quantity of Clear/Overprint Varnish (S.G. 1,0) and finally dilute.

Halftone prints

For the manufacture of halftone prints the following colours are available: TCP 9951 Yellow, TCP 9952 Cyan, TCP 9953 Magenta and TCP 9954 Black. TCP 9949 Clear/Overprint Varnish can be added in every proportion for adjusting the colour intensity.

Cleaning the ink container and Clichés

This has to be done immediately after printing with Visprox Screenwash T.X.F., L.O.D. Visprox Super Screen wash.

Security

All our inks are provided with security- and health instructions.

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Colour range

Standard colours

| | |
|----------|----------------------|
| 9901 L | White |
| 9901 EO* | White |
| 9901 EO* | White Flat |
| 9901 PR | White |
| 9902 M | Black |
| 9902 | Black Flat |
| 9902 EO* | Black |
| 9903 | Light Gray |
| 9906 | Medium Yellow |
| 9907 | Bright Orange |
| 9910 | Bright Red |
| 9915 | Sky Blue |
| 9922 | Brilliant Blue |
| 9923 | Mono Blue |
| 9927 | Blue |
| 9929 | Azure Blue |
| 9933 | Super Orange |
| 9938 | Brilliant Green |
| 9939 | Spring Green |
| 9941 | Pale Red |
| 9945 | Clear Flat |
| 9947 | Silver |
| 9900 | Sparkling Silver |
| 9900 | Glitt. Silver Fine |
| 9900 | Glitt. Silver Coarse |
| 9900 | Pearl Base |
| 9949 | Clear/Overprint |

* E.O.= Extra Opaque

Colormatic colours

| | |
|------|----------------------|
| 9900 | A Lemon Yellow |
| 9900 | B Golden Yellow |
| 9900 | C Orange |
| 9900 | D Red |
| 9900 | E Carmine |
| 9900 | F Pink |
| 9900 | G Bright Violet |
| 9900 | H Permanent Blue |
| 9900 | K Permanent Green |
| 9901 | L White |
| 9902 | M Black |
| 9949 | Clear/Overp. Varnish |

Extra opaque colours

| | |
|----------|------------------|
| 9904 EO* | Primerose Yellow |
| 9908 EO* | Fire Red |
| 9914 EO* | Dark Green |
| 9915 EO* | Sky Blue |
| 9918 EO* | Medium Green |
| 9922 EO* | Brilliant Blue |
| 9927 EO* | Blue |
| 9931 EO* | Rich Yellow |
| 9933 EO* | Super Orange |
| 9939 EO* | Spring Green |

Halftone process colours

| | |
|------|---------|
| 9951 | Yellow |
| 9952 | Cyan |
| 9953 | Magenta |
| 9954 | Black |

Thinners/Retarder

| | |
|----------|---------------------------------|
| Retarder | 4 (special retarder extra slow) |
| Retarder | 8 |
| Thinner | 10 |
| Thinner | 11 (spray thinner) |

Additives

| |
|--------------------------------|
| Hardener no.2 |
| Hardener no. 9 |
| Hardener no. 5 (Glasshardener) |
| Polyester Bonding Improver |

This technical information is meant to be a guide-line. Even though the information is given after detailed examination and to the best of our knowledge, Visprox B.V. can take no responsibility for it. Please continually make proof prints before printing the whole run.